Possible etiopathogenic role of *Dientamoeba fragilis* in gastrointestinal symptoms in paediatric patients

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**Background:** *Dientamoeba fragilis* is a flagellated protozoa with a questioned role in gastrointestinal pathology but it is increasingly related to digestive symptoms with an unknown real prevalence. The use of molecular tests would improve its diagnosis.

**Materials/methods:** We present a prospective case-control study on *D. fragilis* in children aged 1-17 years from October 2017 to October 2018 in the LCMN Hospital Germans Trias i Pujol (Badalona, Spain). Stool samples from children with gastrointestinal symptoms (case group; in whom other etiologies have been excluded) and without symptoms (control group) were collected. A real-time PCR for *D. fragilis* (Real Time PCR Detection Kit, CerTest Biotec, Zaragoza, Spain) was performed. Data about diarrhea, abdominal pain, abdominal distension and weight loss were recorded and have been analyzed for a plausible statistical association with *D. fragilis* infection.

**Results:** A total of 97 samples were tested for the presence of *D. fragilis*. Out of the case group, 15 were positive (28.3%) and 38 were negative (71.7%). In the control group, 9 were positive (20.5%) and 35 were negative (79.5%). The odds ratio was 1.54 [0.5964-3.9511] (p<0.37), which represents an increased probability of suffering from gastrointestinal problems when there is an exposition to the parasite of 60.6%. Among the cases, abdominal pain was the most frequent symptom (80.4%) followed by diarrhea (49%), meteorism (23.5%), abdominal distention (17.6%), hyporexia (9.8%) and weight loss (3.9%).

**Conclusions:** Detecting DNA of *D. fragilis* in stool samples using PCR is regarded nowadays as the gold standard diagnostic test. Even though the small sample size, the results suggests that there is a positive tendency between intestinal symptoms and the detection of *D. fragilis*. Further work is required to establish the ethiopathogenic role of gastrointestinal complaints. Treatments for the eradication of the parasite are justified to study the improvement of the symptoms of children. More data are necessary for a good understanding knowledge of the presence of the parasite in paediatric population.