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Fecal calprotectin as biomarker of functional gastrointestinal disorders in a Latinamerican pediatric population

Wilson Daza¹, Silvana Dadan¹, Emilia Prieto¹, Jhon Camacho¹, Diana Gonzalez¹, Michelle Higuera¹

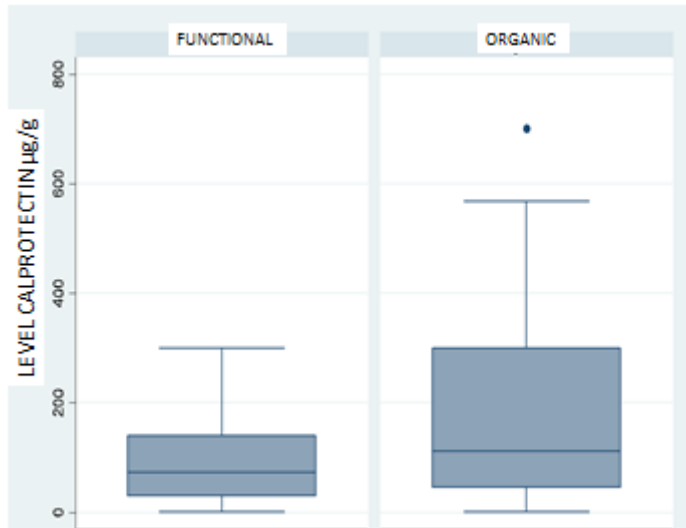
¹Gastronutriped Research Group, Pediatrics Nutrition and Gastroenterology, Bogota, Colombia

Objective and type of study: Fecal calprotectin (FC) is a stable biomarker of inflammation at gastrointestinal levels. The functional gastrointestinal disorders affect a large proportion of the pediatric population. The FC could be used to differentiate functional gastrointestinal disorders in organic entities. However, studies on this issue are scarce. The objective of the present study was to describe the levels of FC on organic gastrointestinal disorders (OGD) and functional gastrointestinal disorders (FGD) in a sample of Colombian Children. The study is descriptive and retrospective.

Method: A review of the clinical records (from 2012 to 2019) of patients who consulted a Colombian gastroenterology ambulatory health center of gastroenterology, hepatology and pediatric nutrition (GASTRONUTRIPED) was conducted. Sociodemographic data, nutritional status, gastrointestinal diagnosis and FC values (processed by immunoassay) were obtained. The diagnostics were classified as organic or functional. FC values were classified according to the NICE guidelines: negative < 50, low 51-100 µg/g, moderate 101-200 µg/g and severe > 200 µg/g. Statistical analyses were conducted with STATA 13. Continuous variables were described by central tendency and dispersion statistics and proportions were used to characterize the categorical variables. A Chi-squared test and the Fisher's exact test were used to compare the distribution of the categorical variables; the continuous variables were analyzed by a Kruskal-Wallis test (non-parametric method).

Results: 217 patients, Median = 20 months and an interquartile range (IQR) of 50 and 72.35% presented at least one gastrointestinal disorder. The most common was food allergy (46.84%, 106/217), followed by post-enteritis syndrome (5.07%, 11/217). Among the FGD the most common disorder was functional constipation (FCo), presented by 22.12% of the sample (48/217). The FC median was 98 µg/g (IQR 245 µg/g). Most of the patients (69.59%) presented negative FC values; 21.2% low; 17.05% moderate and 31.34% severe. The FC median in OGD was 73.5 µg/g (IQR 110 µg/g) and 112 µg/g (IQR 254.3 µg/g) in FGD. A high percentage of the patients with OGD (73.9%) scored positive on the FC value versus 58.3% in the group of patients with FGD. This difference was statistically significant ($p=0.032$). Figure 1.

Conclusions: OGD and FGD are common in pediatrics. The analyses of the present study revealed positive FC levels for both OGD and FGD, with a larger percentage of children with positive OGD in contrast with lower levels of FC in FGD. More studies are needed to corroborate these results and determine possible cut-off points that ease the interpretation of the different types of GD.



[Fecal Calprotectin Levels in Gastrointestinal Disorders in Colombian Children (2012-2019)
GASTRONUTR]

Contact e-mail address: michellehiguera@yahoo.com