The increased incidence of IBD observed in our region in 2016 has the characteristics of an epidemic. Although we found no differences in the age at onset or disease severity, we did find a significant increase in the incidence of IBD in female patients. Performance of epidemiological studies would be useful to try to determine the underlying causes of this phenomenon.

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Alicia Isabel Pascual Pérez*, Juan José Díaz Martín, Santiago Jiménez Treviño, Carlos Bousoño García

Sección de Gastroenterología, Hepatología y Nutrición Pediátrica, Área de Gestión Clínica de Pediatría, Hospital Universitario Central de Asturias, Oviedo, Asturias, Spain

* Corresponding author.
E-mail address: Aliciapascual13@gmail.com
(A.I. Pascual Pérez).

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Faecal microbiota transplant in a child with very early onset inflammatory bowel disease☆

Trasplante de microbiota fecal en niño con enfermedad inflamatoria intestinal de inicio muy precoz

Dear Editor:

The intestinal dysbiosis found in patients with inflammatory bowel disease (IBD) has partly guided the development of treatment strategies. Faecal microbiota transplantation (FMT), which consists in the infusion of a faecal suspension from a healthy donor into the gastrointestinal tract of a recipient to cure a specific disease associated with changes in the intestinal microbiota, has proven efficient in the treatment of recurrent infection by *Clostridium difficile* in adults and children. This treatment modality could also contribute significantly to the control of IBD. Diverting ileostomy is a surgical intervention that has been used as a temporising therapy in children with refractory colitis to stabilise symptoms, improve nutritional status and taper or discontinue steroid therapy.[1] We describe the first paediatric case of FMT via diverted ileostomy performed in Spain.

The patient was a boy aged 6 years and 7 months whose mother had Crohn disease. He had received a diagnosis of inflammatory bowel disease unclassified (IBDU) at age 2 years based on a history of recurrent episodes of bloody diarrhoea, anaemia and hypoalbuminaemia. Tests for the differential diagnosis of immunodeficiencies and monogenic inflammatory diseases were negative, and diagnostic tests for detection of infection including tuberculosis and cytomegalovirus were repeatedly negative, except in the assessment of 3 episodes of bloody diarrhoea, when the patient tested positive for *C. difficile* toxin. Three endoscopic examinations with histological examination of biopsy specimens did not provide significant findings that would

Table 1 Donor screening criteria.

Age >18 years
BMI within normal range
No personal or family history of autoimmune disease
No evidence of current transmissible disease
No evidence of psychiatric disorders
No use of antibiotic agents or proton pump inhibitors in the past 3 months
Food diary to verify healthy diet
Stool cultures negative for pathogenic bacteria, parasites, *Clostridium difficile*, rotavirus, adenovirus
Faecal calprotectin <50 μg/g of faeces
Negative for *Helicobacter pylori* stool antigen
Negative serologic tests for hepatitis A, B and C, HIV, syphilis and CMV
Normal blood panel results (complete blood count, creatinine, electrolytes, transaminases, cholesterol, triglycerides, ferritin, albumin, immunoglobulins, CRP and vitamin D3)
Absence of high-risk sexual behaviour (multiple partners, sex work)
No history of travel to endemic regions with a high prevalence of diarrheal diseases

BMI, body mass index; CMV, cytomegalovirus; CRP, C-reactive protein; HIV, human immunodeficiency virus.

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Table 2 Patient progress.

		Hb, g/dL	Platelets, /mm^3	CRP, mg/L	Albumin, g/dL	Faecal calprotectin, μg/g	Weight, kg	Height, cm
Day 0	Diverting ileostomy	7.2	890,000	136	1.9	570	12.500	101.5
Day 74	74th day of diverting ileostomy	9.5	914,000	70	2.5	130 (ileostomy)	14.800	104.5
Day 74	1st FMT infusion							
Day 93	2nd FMT infusion							
Day 113	Post-FMT outcome	9.6	565,000	11.6	3.5	115 (ileostomy)	16	105
Day 113	Ileostomy closure							
Day 127	14 days post-ileostomy closure	9.4	995,000	92.8	2.3	650	14.600	105.5
Day 163	49 days post-ileostomy closure	8.9	887,000	42.1	2.6	730	14.400	105.5

CRP, C-reactive protein; FMT, faecal microbiota transplantation; Hb, haemoglobin.

allow the diagnostic classification of colitis. The patient did not respond to conventional treatment with mesalamine, systemic steroids, thiopurines and infliximab (with drug level monitoring revealing levels within the normal range for both). With the agreement of the family, the decision was made not to perform a colectomy, opting for the alternative of diverting ileostomy, and scheduling a FMT via the inferior stoma before closure of the ileostomy. The family provided informed consent, and the clinical ethics board of the hospital approved the procedure. Stringent criteria for donor selection were applied with the aim of preventing or reducing the severity of potential donor-related events in the recipient (Table 1).

The procedure involved the preparation of a suspension of fresh donor faeces, which had been produced 3 h prior and stored at room temperature in a sterile container. In the hospital laboratory, a 50 g sample of the fresh faeces was blended in 150 mL of nonbacteriostatic physiological saline, the slurry filtered, and the resulting suspension collected in a sterile container. A sterile syringe was used to deliver 50 mL of the faecal suspension through the inferior stoma of the ileostomy. The patient remained in the supine position for 2 h after transplantation. Twenty days later, the patient underwent a second transplantation of faecal matter from the same donor following the same procedure. The patient tolerated the intervention very well. Table 2 describes the progress of the patient after transplantation.

The case presented here is relevant in part due to the performance of diverting ileostomy in a child with severe colitis refractory to treatment, a technique that was recently described by Maxwell et al.[1] for treatment of this type of situation. We did observe clinical improvement in our patient, with significant recovery of body weight and a moderate decrease in CRP. Once the patient had stabilised, FMT was performed with the aim of amplifying the benefits of treatment. There is still very little data on the use of FMT in paediatrics, especially for treatment of IBD. On the other hand, there are substantial methodological differences between published studies, which makes it difficult to draw valid conclusions. We are not aware of any previous publication reporting the delivery of the faecal suspension via ileostomy in paediatric patients. Although there is no consensus on the optimal delivery route, the evidence suggests that infusion via colonoscopy is superior to retention enema and the nasogastric and nasoenteric routes, not only because of patient acceptance but also because it achieves infusion of the entire colon.[2] In our case, we considered that FMT through the stoma of the ileostomy offered the best possible conditions, as direct delivery of the faecal suspension to the terminal ileum guaranteed the gradual passage through the entire colon. After 2 infusions, there was a very satisfactory improvement of symptoms, probably due to the additive beneficial effects of ileal diversion and FMT. Few paediatric studies have been published on the use of FMT in children with colitis in the context of IBD, and their results are contradictory. In our case, unlike the studies mentioned above,[3–6] the suspension was delivered by direct infusion to the distal ileum and not via enema, colonoscopy or nasoenteric tube, as direct infusion probably increases the chances of anterograde deposition of the infusion at the colonic level, avoiding potential interferences during the gastrointestinal transit. Unfortunately, we are unable to present favourable outcome data for our patient. We do not know how many infusions of faecal solution he may have needed. Performance of randomised clinical trials in children is of the essence in order to clarify the numerous doubts we have at present.

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Carlos Sierra Salinas[a,b], María Isabel Vicioso Recio[c], Javier Blasco-Alonso[a,b], María Juliana Serrano Nieto[a], Víctor Manuel Navas-López[a,b,*]

[a] *Unidad de Gastroenterología y Nutrición Infantil, Unidad de Gestión Clínica de Pediatría, Hospital Materno-Infantil, Málaga, Spain*

[b] *Instituto de Investigación Biomédica de Málaga (IBIMA), Málaga, Spain*

[c] *Unidad de Gestión Clínica de Laboratorio, Hospital Materno-Infantil, Málaga, Spain*

* Corresponding author.
E-mail address: victor.navas@gmail.com (V.M. Navas-López).
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Food and drinks advertising directed at children on television during reinforced protection time slot in Spain, 2017☆

Publicidad televisiva alimentaria en horario infantil reforzado en España, 2017

Dear Editor:

Childhood obesity is one of the greatest public health problems in Spain and thus one of the great challenges our society faces. In Spain, according to data from the ALADINO[1] study conducted in 2015, the prevalence of overweight in children aged 6–9 years is 23.2%, and the prevalence of obesity 18.1%.

The question is, how did we get to this point? Our children lead increasingly sedentary lives, with limited physical activity and a pattern of consumption of unhealthy foods. The latter factor is one of the determinants of the obesity problem, and television advertisements may play a relevant role in it that should be analysed and controlled.[2] In Spain, the literature regarding this subject is scarce, with salient studies like the one performed by Royo Bordonada et al.[3] revealing the considerable exposure of Spanish children to food advertising in television.

In this work, we conducted an observational pilot study with the aim of analysing the advertisements broadcast on television in the reinforced-protection children's viewing time, focusing on the 4 main stations in Spain whose programming include advertisements (Telecinco, Cuatro, Antena 3 and La Sexta). This time is scheduled Monday through Friday from 8:00 to 9:00 AM and from 5:00 to 8:00 PM, and Saturdays and Sundays from 9:00 AM to noon. We analysed 5 days during April 2017 (3 weekdays, Saturday and Sunday), reviewing a total of 72 h of programming (18 h broadcast by each station).

In the period under study, we counted 797 min of advertising (Table 1) broadcast during the protected children's viewing time (amounting to approximately 200 min per station). We counted a total of 2,847 advertisements, of which 679 (23.8%) were food-related, with an average of 9.5 food-related advertisements per hour of broadcasting. We classified these advertisements into groups of similar nutritional characteristics based on a simplified adaptation of the food categories of the European nutrient profile model developed by the World Health Organization (Table 2). The food groups advertised most frequently in the 4 stations were beverages and infusions (22.9%, mainly sugary drinks), confectionery, snacks and desserts (21.8%) and dairy (16.2%). We found that both the proportion of food-related advertisements and the most frequently advertised food group changed significantly between stations, which could be related to the self-regulation process implemented by each of them.

Our results suggest that nearly half of the advertisements seen by children during the ''protected children's viewing time'' promote the consumption of calorie-dense, sugary and unhealthy foods. Since minors also watch television during midday and evening meals and those time bands are not subject to the same stringent regulation of advertising, it is likely that the overall exposure to food advertising is even higher. In Spain, measures have been introduced in recent years to counteract this phenomenon, such as the HAVISA Plan, which includes small captions in advertisements that promote healthy habits, but which has little weight in advertisement broadcasting; the PAOS Code, which promotes self-regulation and responsibility in food product advertising targeting children aged less than 12 years, and the NAOS strategy, an important initiative for the prevention of obesity that has been at play since 2005. To date, the overall impact of these initiatives has proven insufficient.[4,5] Due to all of the above, we believe that paediatricians should alert both citizens and institutions of the potential risks of food-related advertisements that do not promote better dietary habits and are broadcast at sensitive times in a medium as influential as television.[6]

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