

Probiotics on fecal calprotectin of cystic fibrosis

Azizollah Yousefi¹, Arezoo Shafieyoun², Gholamhossein Fallahi¹, Nima Rezaei^{2,3}

¹Department of Pediatric Gastroenterology, ²Research Center for Immunodeficiencies, Children's Medical Center Hospital, and ³Molecular Immunology Research Center and Department of Immunology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.

E-mail: rezaei_nima@tums.ac.ir

Reply

To the Editor,

We read the comments on our published paper, "The effect of probiotics on fecal calprotectin in patients with cystic fibrosis"¹ with great interest. The comments are a full discussion of the published paper and seem to be interesting for the readers of the journal. Here is a brief response to the comments made.

Bulky, oily, foul-smelling stool that tends to float on top of the water in the toilet is a sign of malabsorption, and thus it was used as a sign of pancreatic insufficiency in cystic fibrosis (CF) patients.

As a variety of factors can contribute to growth failure and abdominal symptoms, an objective assessment of pancreatic insufficiency (e.g., fecal elastase testing) to document the need for pancreatic enzyme replacement therapy (PERT) has been suggested. This approach is particularly appropriate for patients identified by newborn screening programs. For patients with CF and typical symptoms of pancreatic insufficiency (growth failure and symptoms of steatorrhea), or for those with two *CFTR* mutations known to be associated with pancreatic insufficiency, it is reasonable to begin PERT therapy prior to formal documentation of pancreatic insufficiency². None of the patients in our study used PERT.

Calprotectin was identified in the serum of the individuals with CF and was termed CF-associated antigen (CFA). In the study by Nickerson and McDonald³, they demonstrated that the ubiquitous dietary component maltodextrin enhances *Escherichia coli* adhesion that may promote dysbiosis of

gut microbes and contribute to Crohn's disease susceptibility. Although these processes can affect the fecal calprotectin levels, they have not been studied; however, there is really a considerable need since maltodextrin has been widely used as placebo in the studies in which fecal calprotectin levels have been measured.

There was a mistake in the published paper that should be considered: following "Intervention" in the Table, <50 µg/g and >50 µg/g should be reversed, and in the Abstract, it should have been clarified that "fecal calprotectin levels <50 µg/g were obtained in 29 patients."

REFERENCES

1. Fallahi G, Motamed F, Yousefi A, et al. The effect of probiotics on fecal calprotectin in patients with cystic fibrosis. *Turk J Pediatr* 2013; 55: 475-478.
2. Cystic Fibrosis Foundation, Borowitz D, Robinson KA, et al. Cystic Fibrosis Foundation evidence-based guidelines for management of infants with cystic fibrosis. *J Pediatr* 2009; 155: S73.
3. Nickerson KP, McDonald C. Crohn's disease-associated adherent-invasive *Escherichia coli* adhesion is enhanced by exposure to the ubiquitous dietary polysaccharide maltodextrin. *PloS One* 2012; 7: e52132.