

Invited Speaker Abstract

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Title

Alleviation of common abdominal symptoms: role of probiotics and prebiotics

1. Abstract

In normal conditions, meal ingestion induces homeostatic sensations (satiation and fullness), that depending on the characteristics of the meal and the digestive response may have a pleasurable dimension, involving digestive well being and mood. By contrast, a large proportion of the general population presents digestive symptoms, such as abdominal bloating, distension, discomfort, and pain, with no detectable abnormalities by conventional diagnostic methods. Hence, it is important to understand the factors that determine digestive sensations.

Digestive sensations depend on gut content, sensitivity and reflex activity. Recent data indicate that microbiota may play an important role in this regard, in the first place on intraluminal contents. Indeed, meal residues entering the colon are metabolized by microbiota. Some substrates undergo fermentative pathways releasing gas, which has been frequently associated with various complaints such as bloating and flatulence. Diet and prebiotics determine the type of residues that serve as substrate for microbiota and may thereby modify its composition and metabolism. Some data indicate that microbiota may also exert modulatory effects on gut sensitivity and reflex modulation of both motility and reflex activity. Some specific strains of probiotics have been shown to enhance digestive well-being and the tolerance to meal challenges in healthy subjects and to improve digestive symptoms both in the general population as well as in patients with functional gut to disorders.

In conclusion, factors that influence gut microbiota, such as diet, pre and probiotics, may modulate gut sensation and alleviate digestive symptoms.

2. Three key references:

- Manichanh C, Eck A, Varela E, Roca J, Clemente JC, Gonzalez A, et al. Anal gas evacuation and colonic microbiota in patients with flatulence: effect of diet. *Gut*. 2014;63:401-8.
- Huaman JW, Mego M, Manichanh C, Canellas N, Canueto D, Segurola H, et al. Effects of Prebiotics Vs a Diet Low in Fodmaps in Patients With Functional Gut Disorder. *Gastroenterology*. 2018;155(4):1004-7.
- Azpiroz F. Intestinal gas. In: Feldman M, Friedman LS, Brand LJ, editors. *Pathophysiology, Diagnosis, Management*. 10th. Philadelphia, USA: Elsevier; 2015. p. 242-50.

3. Key messages

- Digestive sensations depend on gut content, sensitivity and reflex activity and microbiota modulates the three factors.

- The metabolic activity and composition of Intestinal microbiota can be modulated diet, prebiotics and probiotics.
- Prebiotics and probiotics have a role in alleviating digestive symptoms.