AGA Clinical Practice Update on Evaluation and Management of Belching, Abdominal Bloating, and Distention: Expert Review

By Aaron Hein, MD

	Supragastric Belching	Gastric Belching	Aerophagia
Definitions	- **Belching –** audible escape of air from the esophagus or stomach into the pharynx - **Excessive belching –** disruptive to usual activities and >3 days/week for 3 months - **Disorders associated with belching as symptom –** functional dyspepsia, GERD, gastroparesis, hiatal or paraesophageal hernia, pregnancy, psychological symptoms		
	- Expelled air from esophagus, voluntary - Repetitive, not with sleep, ↓ with distraction, ↑ with psychological stressors	- Expelled air from stomach, involuntary - ↓ frequency but with ↑ force than supragastric belching	- Excessive swallowing of air results in ↑ in intragastric and intestinal gas - Predominant manifestations: flatulence and bloating; not belching
Diagnosis and Pathophys	Clinical history and examination ★ **Impedance pH monitoring +/- esophageal manometry** (see slide 2 for description/examples of findings)		
	- UES relaxation and diaphragmatic contraction result in air entering esophagus from pharynx, followed by rapid expulsion or air via mouth	- LES relaxation results in air entering esophagus from stomach, followed by UES relaxation and air expulsion via mouth	- Swallowing and UES relaxation result in air entering esophagus from pharynx, followed by LES relaxation and entrance of air into stomach
Treatment	- Psychoeducation, rule out rumination disorder ★ **Brain-gut behavioral therapies** (see aerophagia) ★ **Speech therapy** - If associated GERD – PPI therapy ★ If psychologic distress – **central neuromodulators**	- If associated GERD – **PPI therapy**, lifestyle changes, consider fundoplication if severe symptoms - If nausea/vomiting – **rule out gastroparesis** - If excessive LES relaxation – **consider baclofen**	- **Brain-gut behavioral therapies (BGBTs)** - Diaphragmatic breathing - Gut hypnotherapy - Cognitive behavioral therapy

★ Best Practice Advice Statements

Moshiree B, Drossman D, Shaukat A. AGA Clinical Practice Update on Evaluation and Management of Belching, Abdominal Bloating, and Distention: Expert Review. Gastroenterology. 2023 Sep;165(3):791-800.e3. doi: 10.1053/j.gastro.2023.04.039. Epub 2023 Jul 13. PMID: 37452811.

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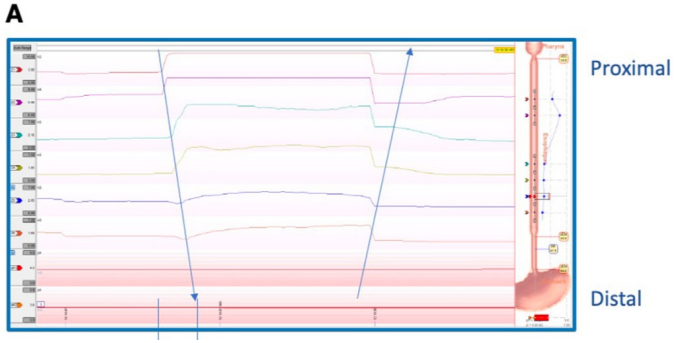
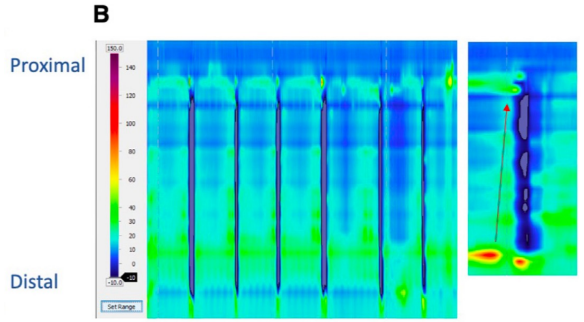
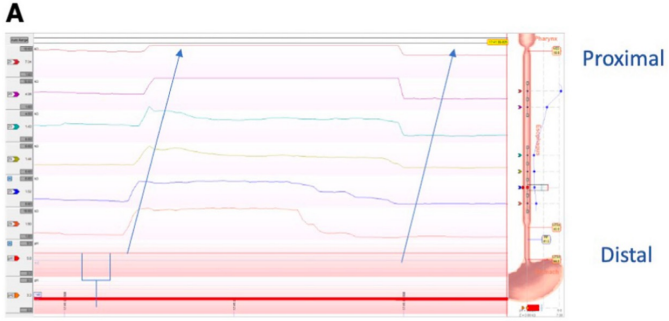
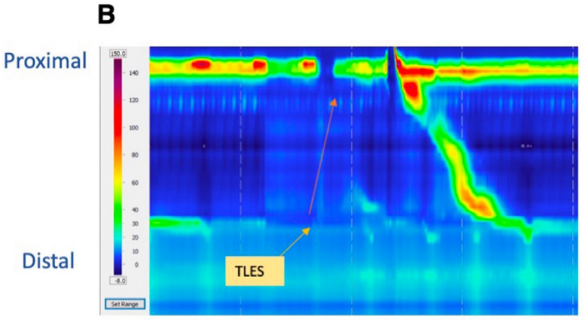
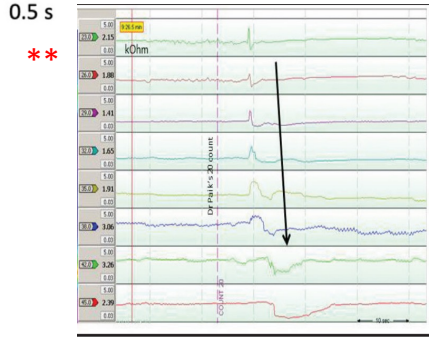
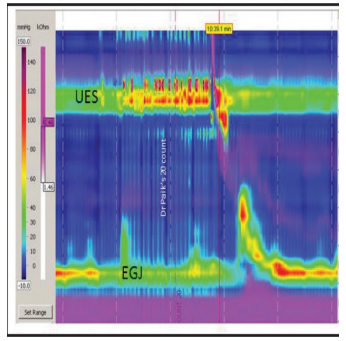
*Arrows indicate direction of air flow, which causes ↑ in impedance

	Impedance Tracings*	Expected Findings	Manometry Examples
Supragastric Belching		- Impedance: *Proximal* to *distal* followed by rapid *distal* to *proximal* ↑ in impedance with air clearing from the esophagus *orally* - Manometry: UES relaxation and ↑ pressure at the LES results in air passage from oral cavity into esophagus and rapid expulsion through mouth	
Gastric Belching		- Impedance: *Distal to proximal* ↑ in impedance with air clearing from the esophagus *orally* - Manometry: LES relaxation (TLES) followed by UES relaxation results in air passage from stomach -> esophagus -> mouth	
Aerophagia		- Impedance: *Proximal to distal* ↑ in impedance with air entering *into the stomach* - Manometry: Swallowing and UES relaxation result in air entering esophagus from pharynx, followed by LES relaxation and entrance of air into stomach	

**Representative images from: Paik IJ, Gluckman CR. Belching, aerophagia and rumination: not just refractory gastroesophageal reflux disease. Practical Gastroenterology. 2017;41(3):32-40.

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Definitions

- **Bloating:** *subjective* sensation in abdominal region experienced as fullness, swelling, trapped gas, or tightness
- **Distension:** *visible* increase in abdominal girth
- Symptoms can be seen in >50% of patients with IBS, constipation, or functional dyspepsia

Work-Up

DO:

- ★ Consider breath testing for SIBO, food intolerances
- ★ Celiac serologies +/- small bowel biopsies
- ★ Consider imaging + upper endoscopy for alarm symptoms
- ★ Anorectal physiology testing if constipation

DON'T:

- ★ Perform routine gastric emptying studies if no nausea/vomiting present

Management

DO:

- ★ Consider dietary restriction trials or FODMAP diet if food intolerance suspected/diagnosed
  - Antibiotics for SIBO if suspected based on risk or diagnosed; consider rifaximin, metronidazole, fluoroquinolones, or amoxicillin
- ★ Treat constipation if present, biofeedback therapy for pelvic floor disorder
- ★ Consider neuromodulators (TCA, SNRIs) and BGBTs; diaphragmatic breathing for abdominophrenic dyssynergia or visceral hypersensitivity

DON'T:

- ★ Use probiotics

★ Functional Bloating and Distension (Rome IV criteria)

- Recurrent abdominal fullness/pressure or a visible increase in abdominal girth
- Occurs >1 day/week, active for 3 months with onset of 6 months
- No predominance of pain or alteration in bowel habits and not fulfill criteria for other disorder of gut brain axis

★ Best Practice Advice Statements

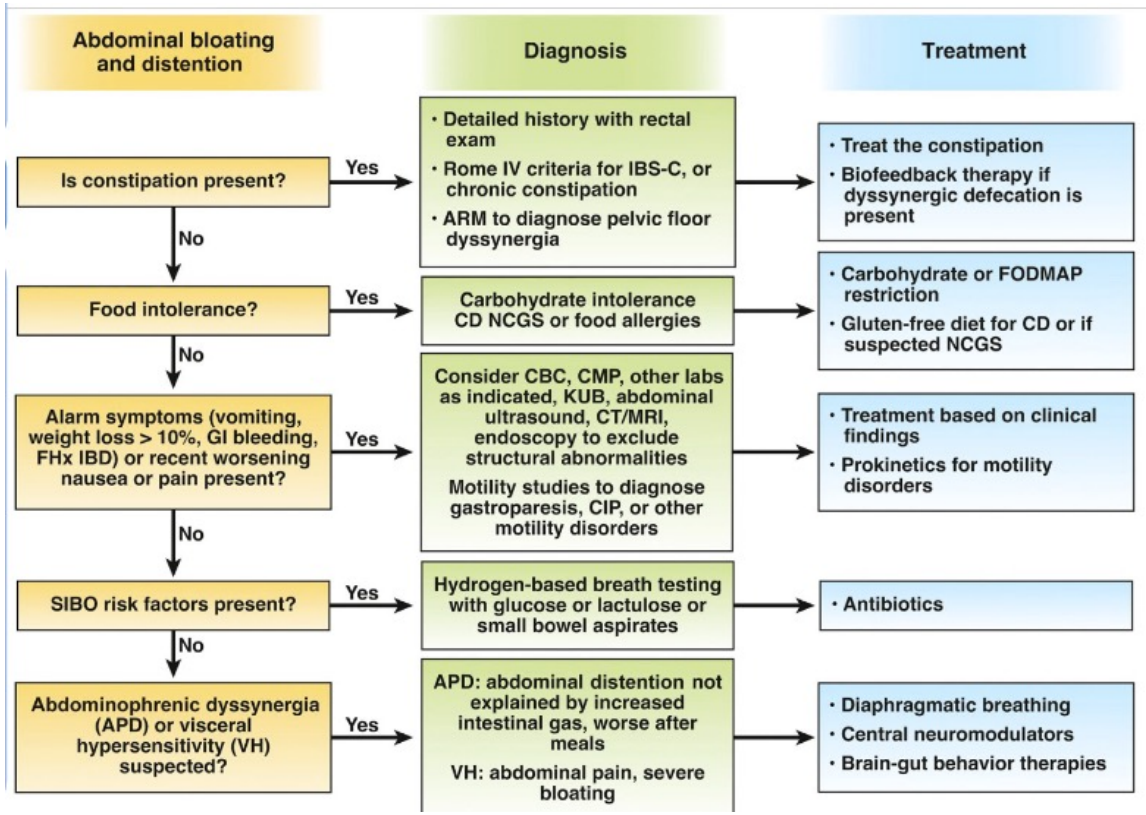

Figure 5. Diagnostic and treatment algorithm for abdominal bloating and distention. NOTE. Diaphragmatic breathing, central neuromodulators, and brain–gut behavioral therapies may be considered for treatment of abdominal bloating and distention regardless of diagnostic correlates. Please refer to manuscript for diagnostic testing warranted based on specific symptoms. APD, abdominophrenic dyssynergia; ARM, anorectal manometry; CBC, complete blood count; CD, celiac disease; CIP, chronic idiopathic intestinal pseudoobstruction; CMP, comprehensive metabolic profile; CT, computed tomography; FHx, family history; FODMAP, fermentable oligosaccharides, disaccharides, monosaccharides, and polyols; GI, gastrointestinal; IBD, inflammatory bowel disease; IBS-C, irritable bowel syndrome with constipation; KUB, kidney, ureter, and bladder X-ray; MRI, magnetic resonance imaging; NCGS, nonceliac gluten sensitivity; SIBO, small intestinal bacterial overgrowth; VH, visceral hypersensitivity.

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