

## Physical Therapy Distance Journal Club

November 2, 2022

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**Article #1: Real world treatment strategies to improve outcomes in patients with chronic idiopathic constipation and irritable bowel syndrome with constipation. Brenner DM, Harris LA, Chang CH, et al. Am J Gastroenterol 2022;117:S21-S26. Doi:10.14309/ajg.000000000001709.**

### Introduction:

- Chronic idiopathic constipation (CIC) and irritable bowel syndrome with constipation (IBS-C) are highly prevalent conditions that affect a significant proportion of the US population
  - Pathogenic, diagnostic, and treatment paradigms for patients with constipation have changed considerably over time
- These common and bothersome disorders of gut–brain interaction (DBGI) present a spectrum of stool-related symptoms such as infrequent bowel movements, hard stools, excessive straining, and an overall sensation of incomplete evacuation or obstruction
- Overlapping symptomatology of CIC and IBS-C have a significant impact on health-related quality of life (HRQOL)
  - Individuals suffering from these conditions report frustration, shame, and embarrassment, and a sense of helplessness
- Pelvic Health PT's should be familiar advocates with the most current evidence-based therapies for CIC and IBS-C to be better educators and for their patients and when possible be a part of an interdisciplinary team

### Aim/Methods:

- The purpose of this study is to provide a critical review and discussion of the burden of illness and strategies for the diagnosis and management of CIC and IBS-C
  - A clinical roundtable consisting of experts from across the United States was convened (virtually) to discuss the burden of constipation and current evidence-based diagnostic and management tools at a mechanistic level, with a primary goal of determining realistic clinical strategies to improve outcomes in patients with CIC or IBS-C
    - A 4-part series of articles was published- see below for additional resources
      - Part IV: Real-World Treatment Strategies to Improve Outcomes in Patients with Chronic Idiopathic Constipation and Irritable Bowel Syndrome with Constipation

### Results:

- <40% of patients with CIC and only ½ of patients with IBS-C present to a healthcare provider and this is usually in a primary care setting
  - Most have already tried dietary and lifestyles changes and OTC remedies
  - CIC and IBS-C represent a heterogeneous and overlapping population
- Based on panel consensus, a proposed clinical treatment algorithm for managing patients with CIC or IBS-C was developed (Figure 1) which included the following:
  - Dietary fiber
    - Simple, safe, effective
    - Ranges: 21-25 g/d women, 30-38 g/d men
    - Clinical trials support the use of prunes and kiwifruit (combo)

- soluble/insoluble), mango?
- Bulking agents, specifically soluble fibers (psyllium), are more effective for IBS-C
  - Adverse events (AE's) include abdominal bloating, distention, flatulence, cramping
    - Develop secondary to microbial fermentation
  - Fiber plus other agents may better balance fluid and optimize stool consistency
- Lifestyle
  - Exercise (in the algorithm but no discussion of evidence)
  - \*Good reference: Gao, R., Tao, Y., Zhou, C., Li, J., Wang, X., Chen, L., ... & Guo, L. (2019). Exercise therapy in patients with constipation: a systematic review and meta-analysis of randomized controlled trials. *Scandinavian journal of gastroenterology*, 54(2), 169-177.
- Gut microbial alteration
  - Suggested as underlying mechanisms of CIC and IBS-C
  - Small intestinal bacterial overgrowth (SIBO) may resemble IBS with nonspecific symptoms, including bloating, flatulence, diarrhea, and abdominal discomfort/pain
    - Diagnosis is challenging
    - Rifaximin (Xifaxan), a non-systemic antibiotic has been shown to modify the gut microbiome and reduce bacterial production of gas in a small study (only FDA approved in US for IBS-D)
- Probiotics, prebiotics, symbiotics
  - Probiotics (i.e., live microorganisms that, when administered in adequate amounts, confer a health benefit on the host) may improve some symptoms of IBS-C, such as bloating and flatulence
    - Controversial- data supporting their use for global symptom improvement is limited and inconsistent
    - Strongest evidence in support of probiotic use seems to be with *Bifidobacterium* spp.–containing and combination strain preparations
  - Prebiotics (i.e., substrates such as fiber deemed to encourage growth of beneficial bacteria in the gut) and symbiotic (i.e., an optimized combination of prebiotics and probiotics) have been promoted on the premise that gut dysbiosis may contribute to symptoms of CIC and IBS-C (data is lacking)
- Osmotic and stimulant laxatives
  - Osmotic laxatives (PEG and magnesium)
    - Effective management options for constipation
    - Strongly recommended across gastroenterology societies for the treatment of CIC, less agreement for IBS-C
  - Polyethylene glycol (PEG) 3350 (MiraLAX) has proven efficacy for managing bowel symptoms
    - Evidence supporting improvements in abdominal symptoms is lacking
    - Support for its use in IBS-C is based on its low cost in the generic form, favorable safety, and tolerability profiles
  - Stimulant laxatives (senna, bisacodyl- Dulcolax, Fleets)

- Used to improve stool frequency and texture
  - Are considered less favorable than osmotic laxatives due to limited evidence in CIC and no high-quality studies for treating IBS-C.
  - Use is limited by tolerability (abdominal cramping and diarrhea)
  - Preferred as short-term treatments or rescue options
- Low FODMAPS
  - A low fermentable oligosaccharide, disaccharide, monosaccharide, and polyol (FODMAP) diet has been studied primarily in IBS-D and IBS-M
  - May be useful for managing bloating and abdominal pain in patients with CIC and IBS-C
  - Patients must be prepared to strictly adhere to a low FODMAP diet for at least 4–6 weeks
    - Potentially detrimental effects include restricted eating, alterations in the gut microbiome, reductions in short-chain fatty acids, and losses of vitamins and micronutrients
  - Many online tools and strategies have been developed to facilitate the low FODMAP strategy, but there are considerable levels of discordance between them
  - This dietary strategy is best initiated under the guidance of a nutritional expert
- Prescription therapies
  - These are more fully described in the article by Sayuk 2022 (see below)
  - Implemented when there is failure of more conservative strategies
  - Monotherapy is best, but often HCP will combine therapies
  - In Figure 1, prescription therapies precede ruling out dyssynergic defecation (DD) and referral to PT and complimentary therapies
    - Page S25- treatment failures may be due to inadequate defecatory/rectal propulsion with or without paradoxical contraction of the PFM
      - ARM and balloon expulsion (DRE?) should be performed to diagnose DD and ID patients who may benefit from biofeedback
    - Also, no mention of ruling out/in and managing pelvic organ prolapse, especially rectocele
- Complimentary/alternative therapy (at the end of the algorithm, not discussed until right before the article conclusion)
  - A recent 2021 systematic review (ref #53) suggests that complementary and alternative medicine (i.e., herbal therapy, dietary supplements, mind–body based, body based, and energy healing therapy) may have a beneficial effect on abdominal pain and overall IBS response
- Patient involvement (not in the algorithm, discussed on page S24)
  - Patient education is important to successful treatment
  - Treatment frequently involves a trial-and-error approach
  - Patients need to understand that the timing of symptom responses (bowel vs abdominal symptoms) may be variable

- Optimal improvements in bowel frequency may occur quickly (within hours to days), whereas maximum improvements in pain, discomfort, and bloating may take weeks to months with certain agents
- Intermittent rescue strategies should be discussed and provided as this may improve compliance and adherence (enemas, suppositories, stimulant laxatives)
- Treatment sequencing should incorporate patient preferences after discussion of the cost, timing, safety, efficacy, and tolerability of each potential intervention

**Conclusions:**

- Determining the correct type or sequence of treatments for CIC and IBS-C can be difficult
- Figure 1 provides a clinically based treatment algorithm for managing patients with CIC or IBS-C

**Limitations:**

- The article and algorithm were developed by the consensus of the members of the expert advisory panel and based on current literature, but it was not an interdisciplinary team
- Financial support- all the articles in this supplement were funded by Salix Pharmaceuticals, Inc. (maker of plecanatide- Trulance)
- Potential competing interests- most of the authors were advisors for the pharmaceutical industry

**Discussion:**

- Where do you think pelvic health PT's should be in the algorithm in Figure 1?
- What else should have been included in the algorithm?
- When treating patients with CIC and IBS-C, do you make recommendations for dietary and lifestyle changes? What do you typically include?
- What is your experience with patients who have these diagnoses and their use/success with prescription therapies

**Additional Resources:**

- Wald, A., Bharucha, A. E., Limketkai, B., Malcolm, A., Remes-Troche, J. M., Whitehead, W. E., & Zutshi, M. (2021). ACG clinical guidelines: management of benign anorectal disorders. *The American journal of gastroenterology*, 116(10), 1987-2008.
- 4 part series:
  - Part I: Brenner, D. M. (2022). Best Practices for the Management of Chronic Idiopathic Constipation and Irritable Bowel Syndrome With Constipation: A Roundtable Discussion and Review. *Official journal of the American College of Gastroenterology | ACG*, 117(4S), S1.
  - Part II: Harris, L. A., & Chang, C. H. (2022). Burden of Constipation: Looking Beyond Bowel Movements. *The American Journal of Gastroenterology*, 117(4), S2-S5.
  - Part III: Sayuk, G. S., Waldman, S. A., & Brenner, D. M. (2022). Mechanisms of Action of Current Pharmacologic Options for the Treatment of Chronic Idiopathic Constipation and Irritable Bowel Syndrome With Constipation. *The American Journal of Gastroenterology*, 117(4), S6-S13
- Gao, R., Tao, Y., Zhou, C., Li, J., Wang, X., Chen, L., ... & Guo, L. (2019). Exercise therapy in patients with constipation: a systematic review and meta-analysis of randomized controlled trials. *Scandinavian journal of gastroenterology*, 54(2), 169-177.