Evaluation and management of chronic constipation

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Definition and Presenting Symptoms

➢ Traditionally, <3 bowel movements per week
  • Reports of stool frequency are often inaccurate
  • Many healthy individuals have <3 BM per week.
  • Many patients who have daily bowel movements describe constipation.
  • Reduced stool frequency is poorly correlated with delayed colonic transit.

**Infrequency doesn’t correlate with symptoms or pathophysiology**
Rome III Criteria

• Two or more of the following 6 must be present during the previous 3 months, with an onset at least 6 months earlier:
  ➢ Straining in ≥25% of defecations
  ➢ Lumpy or hard stools in ≥25% of defecations
  ➢ Sensation of incomplete evacuation for ≥25% of defecations
  ➢ Sensation of anorectal obstruction/blockage for ≥25% of defecations
  ➢ Manual maneuvers to facilitate ≥25% of defecations (e.g., digital evacuation, support of pelvic floor)
  ➢ Fewer than 3 defecations per week

ACG: unsatisfactory defecation characterized by infrequent stools, difficult stool passage, or both.

Risk Factors for Constipation

• Advanced age
• Female gender
• Low level of education
• Low level of physical activity
• Low socioeconomic status
• Nonwhite ethnicity
• Use of certain medications
Clinical Subgroups

- **Secondary Causes of Constipation**
  - Mechanical obstruction (stricture, cancer, anal fissure, rectocele)
  - Metabolic disturbances (hypercalcemia, hypothyroidism, diabetes mellitus)
  - Neurologic and myopathic disorders (parkinsonism, spinal cord lesions)
  - Medications
- **Defecatory disorders** (disorder of pelvic floor/ anorectal function)
- **Slow transit constipation** [STC]
- **Normal transit constipation** [NTC]
- **Combination Disorders**
Evaluation

- History
  - Stool frequency
  - Straining
  - Hard stool (Bristol stool chart)
  - Sensation of incomplete evacuation
  - Manual maneuvers to defecations (e.g., perineal or vaginal pressure/direct digital evacuation of stools)
  - Laxatives are being used
  - Red flag symptoms (blood in stool, weight loss, FH colon ca).
  - PMH/Medications review

Clinical Assessment of Constipation

- Physical exam including comprehensive rectal examination
  - Descent of the perineum during simulated evacuation and the elevation during a squeeze aimed at retention.
  - Fecal soiling
  - Anal reflex tested by a light pinprick or scratch.
  - Patulous opening (suspect neurogenic constipation with or without incontinence)
  - Prolapse of anorectal mucosa.
  - Acute localized tenderness to palpation along the puborectalis is a feature of the levator ani syndrome.
Clinical Assessment of Constipation

- **Testing**
- Should be targeted and only if H&P findings suggest potential secondary cause or alarm sign or symptom

• In the absence of other symptoms and signs, only CBC is necessary
• Metabolic tests (TSH, BMP) not routinely recommended. Diagnostic utility and cost effectiveness have not been rigorously evaluated
• A structural evaluation of the colon considered if:
  - Alarm signs or symptoms (eg, blood in stools, anemia, weight loss).
  - Abrupt onset of constipation or is older than 50 years and has not undergone previous screenings for colorectal cancer
At the conclusion of this initial evaluation, constipation can be tentatively diagnosed as:

1. NTC
2. STC
3. Defecatory disorder
4. A combination disorder
5. Secondary constipation
Medical management stepwise approach

1. Increase in fiber intake (diet and as supplements)
2. And/or an inexpensive osmotic agent, such as milk of magnesia or polyethylene glycol.
3. Osmotic agent + stimulant laxative ( Preferably administered 30 minutes after a meal to synergize the pharmacologic agent with the gastrocolonic response)
4. Newer agent should be considered when symptoms do not respond to laxatives.
   - Lubiprostone (Chloride channel-2 stimulants)
   - Linaclotide (Guanylate cyclase C activator)
   - Prucalopride (5-HT₄ receptor agonist). Not available in the United
   - Methylaltrexone (Peripherally acting mu-opioid antagonists used for opioid induced constipation).

Would increase fluid intake improve constipation?
• In the absence of clinical dehydration, no data support the notion that increasing fluid intake relieves constipation.

• Increasing water intake to 1.5 to 2 L may enhance the effects of fiber intake in patients with constipation

Table 1. Medications for the Treatment of Constipation

<table>
<thead>
<tr>
<th>Agent</th>
<th>Typical dose*</th>
<th>Time of onset</th>
<th>Advance effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>BULKING AGENTS</td>
<td></td>
<td></td>
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<tr>
<td>Methylcellulose powder</td>
<td>16 g per day</td>
<td>12 to 24 hours</td>
<td>None compared with placebo*</td>
</tr>
<tr>
<td>Polyethylene glycol 150</td>
<td>1,200 mg, one to four times per day</td>
<td>12 to 24 hours</td>
<td>None compared with placebo*</td>
</tr>
<tr>
<td>Polyethylene glycol (Mevicol) powder</td>
<td>1 tablet or 1 packet one to three times per day</td>
<td>12 to 24 hours</td>
<td>bloating, abdominal distension in 4% to 18%††††††</td>
</tr>
<tr>
<td>OSMOTIC INFLUENCES</td>
<td></td>
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<tr>
<td>Lactulose solution</td>
<td>15 to 30 ml per day</td>
<td>24 to 48 hours</td>
<td>bloating and cramping; nausea in up to 23%††††††</td>
</tr>
<tr>
<td>Magnesium citrate solution</td>
<td>150 to 300 ml, single dose or short-term daily dose</td>
<td>30 minutes to 6 hours</td>
<td>increase in magnesium, causing lethargy, hypotension, respiratory depression††††††</td>
</tr>
<tr>
<td>Magnesium hydroxide suspension</td>
<td>30 to 60 ml per day</td>
<td>30 minutes to 6 hours</td>
<td>increase in magnesium, causing lethargy, hypotension, respiratory depression††††††</td>
</tr>
<tr>
<td>Polyethylene glycol (Movicol) powder</td>
<td>17 g per day</td>
<td>24 to 48 hours</td>
<td>minimal adverse effects of cramping and gas††††††</td>
</tr>
<tr>
<td>Senna solution</td>
<td>2 to 3 times or short-term daily dose</td>
<td>24 to 48 hours</td>
<td>bloating, cramping, and nausea††††††</td>
</tr>
<tr>
<td>STOOL SOFTENERS</td>
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<tr>
<td>Docusate sodium (Colace) capsules</td>
<td>100 mg twice per day</td>
<td>24 to 48 hours</td>
<td>None reported††††††</td>
</tr>
<tr>
<td>SIBUOLANT INFLUENCES</td>
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<tr>
<td>Bisacodyl (Dulcolax) tablets</td>
<td>5 to 15 mg per day</td>
<td>6 to 10 hours</td>
<td>diarrhea and abdominal pain in 56% in week 1 and 5% in week 4††††††</td>
</tr>
<tr>
<td>Senna tablets</td>
<td>15 mg per day</td>
<td>6 to 12 hours</td>
<td>abdominal pain in up to 12%††††††</td>
</tr>
<tr>
<td>CHLORIDE CHANNEL ACTIVATORS</td>
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<tr>
<td>Lubiprostone ( Amitrida) capsules</td>
<td>24 mg twice per day</td>
<td>Within 24 hours</td>
<td>nausea in 18%††††††</td>
</tr>
<tr>
<td>PERIPHERALLY ACTING 5-HT3 ANTAGONISTS</td>
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<tr>
<td>Methylnaltrexone (Relistor) solution</td>
<td>Weight-based subcutaneous injections, once or twice per day</td>
<td>30 to 60 minutes</td>
<td>diarrhea in 8% Abdominal pain in 13%††††††</td>
</tr>
<tr>
<td>OTHER</td>
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<td></td>
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<tr>
<td>Linaclotide (Larodip) capsules</td>
<td>145 mg per day</td>
<td>—</td>
<td>diarrhea in 15%, which led to discontinuation in 6%††††††</td>
</tr>
</tbody>
</table>

*—old formulations are not, unless specified
†—estimated retail price for one month’s treatment in 2005, based on information obtained at http://www.prides.com (accessed May 15, 2010)
‡—estimated retail price for one month’s treatment in 2005, based on information obtained at http://www.prides.com (accessed June 10, 2010)
††—information from manufacturers, 1999 through 2005
Biofeedback

- Improves symptoms in more than 70% of patients with defecatory disorders.
- Success rate increases with:
  - The motivation of the patient and therapist
  - Frequency and intensity of the retraining program
  - Involvement of behavioral psychologists and dietitians

How should patients with renal insufficiency or renal failure be managed?

- Many OTC and prescription laxatives are safe
  - Osmotic agents have limited by AEs for this population
  - Lactulose may be a safer alternative
  - Several agents require dose adjustment for use with renal impairment
- Avoid some medications
  - Sodium phosphate based compounds can cause crystalline nephropathy
  - Magnesium-based products, esp if creatinine >1.5 mg/dL
How should clinicians manage constipation in patients with diabetes or multiple sclerosis?

- **Diabetes**
  - Focus on glycemic control
  - Poor glycemic control leads to worse symptoms

- **Multiple sclerosis**
  - Treatment can lead to incontinence due to alteration in rectal sensation and anorectal muscle function
  - Pelvic floor dysfunction may also occur
  - Focus treatment on symptom control
  - Constipation may be preferable to incontinence as predominant symptom

When to refer to gastroenterologist

- Need for colonoscopy (e.g. unexplained iron deficiency anemia, rectal bleeding, unexplained weight loss).
- Suspected defecatory disorder for motility testing
- Filed to respond to medical management
Thank you

Summary

• If feasible, discontinue medications that can cause constipation before further testing (strong recommendation, low-quality evidence).

• In the absence of other symptoms and signs, only a complete blood cell count is necessary (strong recommendation, low-quality evidence).

• Unless other clinical features warrant otherwise, metabolic tests (glucose, calcium, sensitive thyroid-stimulating hormone) are not routinely recommended (strong recommendation, moderate-quality evidence).

• A colonoscopy should not be performed in patients without alarm features unless age-appropriate colon cancer screening has not been performed (strong recommendation, moderate-quality evidence).
• Therapeutic trial (ie, fiber supplementation and/or osmotic or stimulant laxatives) is recommended before anorectal testing (strong recommendation, moderate-quality evidence).

• Anorectal manometry and a rectal balloon expulsion should be performed in patients who fail to respond to laxatives (strong recommendation, moderate-quality evidence).

• Colonic transit should be evaluated if anorectal test results do not show a defecatory disorder or if symptoms persist despite treatment of a defecatory disorder (strong recommendation, low-quality evidence).

• Pelvic floor retraining by biofeedback therapy rather than laxatives is recommended for defecatory disorders (strong recommendation, high-quality evidence).