Intestinal Motility Issues in PA/LTC Patients

Laurie Sheffield, ARNP–C
Clinical Educator
OPTUMCare Florida

OPTUMCare™

Speaker Disclosures

Laurie Sheffield is a full-time employee of OPTUMCare, a division of Optum and UnitedHealthGroup.

Laurie Sheffield has disclosed that she has no financial relationships to any of the products discussed in this presentation.

Learning Objectives

By the end of the session, participants will be able to:

- Identify the pathophysiology, symptoms, workup and treatment of the following GI Motility Issues in PA & LTC:
  - Esophageal Food Bolus (EFB)
  - Ileus
  - Small Bowel Obstruction (SBO)
  - Volvulus
  - Constipation

Disclaimers From The Presenters

There is very little evidence-based medicine (EBM) in this area of study for our population of patients

Most of the presentation is anecdotal (based on case reports from the literature, and personal accounts)

Every effort has been made to use generic names for medications, and to note those areas that are not FDA approved for the diagnosis presented ("Off Label")

We have included slides of roadway and traffic situations to draw analogies to similar situations outside the GI Tract

This presentation was submitted to AMDA in the summer of 2016. We understand that there are several medications in this area under development, and may be released by the time of the presentation.

4

General Opening Comments

- Our population is unique and does not usually fit into any "text boxes" set up by large protocols, studies, articles or textbooks
- The Advance Care Plan (ACP) is often the primary driver for the patient centered medical plan
  - Usually, the ACP weighs more than any other factor
- Each patient more of an individual than the general public, based on their age, ACP and chronic disease statuses
- The responsible party (RP) is also a very important key factor in discussing the workup and treatment options

Esophageal Food Bolus (EFB)

- Can mimic a cardiovascular condition
- Symptom locations range from lower jaw to the upper abdomen
- Requires immediate attention
- AKA: "Steakhouse Syndrome"
- Entrance ramp is blocked

EFB Treatment

- Airway protection first (Remember your ABCs)
- Be sure that they are not choking on food in the trachea or pharynx
- Glucagon: 1 – 2 mg IVP
  - May be repeated in 5 – 10 minutes if needed
  - Caution to watch for nausea and emesis
    - Which are the primary side effects of this medication
- Emergent endoscopy
  - If available in your facility
- Transfer to an emergency room

EFB Follow Up

- As always, based on the ACP
- Consider a full GI workup
  - Including, but not limited to:
    - Video monitored swallowing study
    - Full EGD
      - Attention to a possible peptic stricture or a Schatzki ring
    - Esophageal dilation (if needed)
    - Last resort, and only if part of the ACP:
      - Percutaneous Endoscopic Gastrostomy (PEG) Tube

Abdominal Pain Differential Dx (Partial List)

- Appendicitis
- *Clostridium difficile* Colitis
- Dehydration / Electrolyte Imbalance
- Diabetes (esp. if Uncontrolled and / or History of Diabetic Coma)
- Diverticulitis
- Food Poisoning / Gastroenteritis
- Foreign Bodies in the GI Tract
- Gallbladder Disease
- Gastroparesis (especially in diabetics)
- GastroEsphogeal Reflux Disease (GERD)

Abdominal Pain DDx (continued)

- Inflammatory Bowel Disease (IBD)
  - Crohn's Disease and Ulcerative Colitis
- Irritable Bowel Syndrome (IBS)
- Ischemic Bowel / Mesenteric Infarction*
- Medications (IE: anticholinergics, narcotics)
- Pancreatitis
- Peptic Ulcer Disease (PUD)
- Peritonitis
- Pneumonia [Especially of the Lower Lobe(s)]
  - Affecting the diaphragm, and therefore the upper abdomen
- Trauma

Abdominal Pain Work Up (as indicated)

- Lab
  - Primary:
    - CBC, CMP, Amylase, Lipase, C-React Protein, Thyroid Studies, ESR, Medication Levels (IE: phenytoin, digoxin)
  - Consider as 2nd level tests:
    - Lactic Acid Level, Mg, UA with C&S if indicated (with any urinary symptoms)
  - With any diarrhea: Stool for *C. difficile*, O&P, C&S
  - If you are deciding on the use of an antibiotic or not, consider a procalcitonin level
    - A level < 0.05 usually indicates a low risk for progression to severe sepsis and/or septic shock

Abdominal Pain Work Up (continued)

- X-Rays (medical imaging)
  - 2 view abdomen
    - Flat (supine) and upright (standing if possible)
    - Seated for the second view is not as good
    - Be sure to request a comparison each time you order this test
      - Give them the actual dates of the last 2 to 3 sets of films
      - Many times, the radiology department will not give you this comparison report, unless it is specifically requested and followed up by you
- Ultrasound of the Abdomen
  - If your patient is a female, the radiology department may require you to order a pelvic ultrasound as well
    - You should know this for each of your facilities

Work Up (continued)

- Computerized Tomography (CT) Scans
  - If the problem persists, on the X-ray or if the US suggests further testing, CT is done next
  - Whenever possible, the CT Scans are done with both IV and PO contrast
    - Occasionally, neither dye is possible due to an allergy, renal function or NPO status (without a PEG or NG Tube)
  - The PO contrast dye may be therapeutic as well, by stimulating peristalsis in some patients

Ileus

- AKA paralytic ileus
- AKA pseudo-obstruction
- Definition:
  - Partial or complete, non-mechanical blockage of the small or large intestine
- Ileus occurs because peristalsis slows down considerably or stops altogether
  - Peristalsis is the wavelike contractions that help push stool through the entire GI Tract

14

Ileus (continued)….

<u>Causes include, but are not limited to:</u>

- Surgery
- Certain medications (partial list):
  - Anticholinergics
  - Antihypertensives
  - Benzodiazepines
  - Calcium Containing Medication
  - Muscle Relaxants
  - Narcotics
- Certain disorders of the muscles of the intestines
- Imbalance of electrolytes

15

Ileus Symptoms

- Abdominal distention, bloating, and "gassiness“
- Nausea and/or vomiting
  - If your patient is nauseated or vomits, this could signify something going on that we can catch very early
  - “No call too small”
- Delayed passage of stool, or the inability to pass flatus
- Inability to tolerate an oral contrast dye
- Diffuse, persistent abdominal pain

16

Ileus Workup

- Starts with a targeted medical and surgical history, including all medications (include OTCs and PRNs), and fluid and electrolyte status
- Refer to the following slides
  - #14 & 15: “Differential Diagnoses of Abdominal Pain”
  - #17, 18 & 19: “Workup of Abdominal Pain”

17

Treatment of Ileus

- About 95% of these will resolve spontaneously, with careful observation and bowel rest
- Therefore, initial management should always be conservative and non-invasive
- Always look for and remove the causative factor first
  - Remember that ileus is always caused by something else
  - Reduce or remove constipating meds, including but not limited to:
    - Anti-Cholinergics (IE: Anti-Histamines, especially the first generation sedating group)
    - Benzodiazepines (IE: alprazolam, diazepam, lorazepam)
    - Calcium containing medications (especially antacids)
    - Muscle relaxants
    - Narcotics (IE: codeine, hydrocodone, morphine, oxycodone)
    - Verapamil (Trade names: Calan, Covera-HS, Verelan)

18

Ileus Treatment (continued)

- Serial daily exams
  - Once or twice a day
  - By the same person whenever possible
- Correct the underlying causes
  - IE: dehydration, infection, electrolyte disturbances
- If the PO route not sufficient to correct the problem, start an IV
  - Give the bowel a rest whenever possible
- An NG tube should be considered if there is persistent nausea, vomiting or the X-ray suggests gastroparesis
  - Especially if the anti nausea medications fail
  - Need to check each of your facilities on the ability to perform this

19

Ileus Treatment (continued)

- Vital signs monitoring
- Turn the patient q 2 hours while awake for at least the next 14 days
- Out of bed for at least 90 minutes; at least twice a day whenever possible
  - Ambulate during these times whenever possible
- Only in selected patients:
  - Chewing gum has been shown to stimulate peristalsis (anecdotal)
- Incentive spirometry (IS) every 1 to 2 hours while awake
- Monitoring urine output whenever possible
- Possible pharmacological treatments (next several slides)
  - These treatments are off label, and must be documented as such

20

Ileus Treatment with Medications

- Currently, all medication treatments that we were able to research for this talk are off-label
  - Not FDA approved for these indications
- This requires additional documentation in the medical records
  - When treating any of these disease processes with any of these medications
- This includes a discussion with the patient and / or family (RP)
  - Document the verbal informed consent obtained in the medical records

Ileus Treatment with Medications (continued)

- Ondansetron (Trade name: Zofran)
  - 4 to 8mg PO, IV or IM, Q 3 hours, *prn nausea*
  - Maximum of 16mg in any 24 hours
  - **Off label to use in a patient with ileus without nausea**
- Metoclopramide (Trade name: Reglan)
  - Caution: black box warning about tardive dyskinesia
    - May include involuntary and repetitive movements of the body, even after the drugs are no longer taken
  - The initial dose is usually 5 mg PO or IV Q 12 Hours
  - You may increase the dose slowly to a max dose of 15mg PO or IV Q 6 Hours
  - **Off label to use in a patient with ileus**

22

Ileus Treatment with Medications (continued)

- The following two medications are used to assist with GI content movement
  - Polyethylene Glycol (Trade names: Miralax, GlycoLax)
    - 1 scoop in 8 ounces / 240 cc of water QD
    - Followed by at least 8 ounces / 240 cc of plain water
  - Senna (Trade name: Senokot)
    - 2 pills PO Q 12 Hours

23

Ileus Treatment with Medications (continued)

- Lubiprostone (Trade name: Amitiza)
  - Currently only indicated for chronic idiopathic constipation or IBS with constipation
    - **Off label to use in a patient with ileus**
  - Contraindicated in patients with known or suspected mechanical gastrointestinal obstruction
  - This medication works as a laxative, by increasing fluid flowing from the wall of the GI lumen into the intestinal contents
    - This process allows the stool to pass much easier
  - This is a capsule that can not be crushed or opened
  - This medication comes in an 8mcg and 24 mcg capsule

Lubiprostone (continued)

- The starting dose is 8mcg bid
- You may increase the dose by 8mcg daily until a max of 24mcg bid is reached (48mcg daily max)
  - 8mcg tid
  - 8mcg qid
  - 8mcg 5 times daily
  - 24mcg bid (max dose) on the 5th day

Methylnaltrexone bromide (Trade name: Relistor); given by SQ Injection

- Currently, this medication is only indicated for opioid induced constipation (OIC) in those receiving palliative care, in those who have failed other more conservative therapies
  - (IE: oral psyllium or laxatives)
  - **Off label to use in a patient with ileus**
- Contraindicated for those with known mechanical bowel obstructions
- Comes in two different prefilled syringes
  - 8mg for patients who are 38kg to 62kg
  - 12mg for patients who are 62kg to 114kg
- The rest are addressed in the package insert

Alvimopan (Trade name: Entereg)

- Black Box Warning for MI with long term use
- Currently only indicated to accelerate the time to GI recovery following surgeries that include partial bowel resection with primary anastomoses
  - **Off label to use in a patient with ileus**
- Contraindicated for those who have taken narcotics 7 consecutive days immediately prior to this medication
- Dose: 12mg, 1 to 5 hours before surgery; then 12mg BID up to 7 days after surgery
  - Max of 15 pills total

Some Additional Orders That We Have Used (As indicated; case by case)

- Diet
  - NPO (to allow for bowel rest)
  - Clear liquid for 24 to 48 hours, once nausea and vomiting have resolved
  - Then return to previous diet if still no nausea or vomiting
- IV or Hypodermoclysis Hydration (if indicated)
  - Additional information on these in other presentations

28

Additional Orders (continued)

- Stool softeners, suppositories and enemas have limited efficacy
  - ****these agents should be given after checking that no hard stool is blocking the rectum and/or colon*******
- If an enema is needed, use a warm water enema
  - Rather than the sodium phosphate (Trade name: Fleet's) enema
  - The use of the sodium phosphate enema has been associated with complications such as perforations, volume depletion, electrolyte disturbances, and EKG changes

29

Medication not to use in these situations

Linacoltide (Trade name: Linzess)

- Currently only indicated for:
  - Irritable bowel syndrome with constipation
  - Chronic idiopathic constipation
- Contraindicated in:
  - Mechanical obstructions
  - Children less than 6 y/o (black box)
- **Also off label to use in a patient with ileus**

In summary for an Ileus…

- No studies have identified any specific therapy, other than supportive care, to resolve ileus.
- Supportive care includes pain control that minimizes opioid use, intravenous fluid and electrolyte therapy, dietary restriction, and selective placement of a nasogastric tube for gastrointestinal decompression for those with persistent nausea/vomiting.
- The patient should be closely monitored with serial abdominal examinations for improvement or worsening of their condition
- Use the ACP and discussions with the patient and/or RP, to guide further treatment decisions

31

Small Bowel Obstruction (SBO)

Causes

- Mechanical disruption of flow for the normal GI contents through the intestines.
- The most common cause is adhesions from prior intra abdominal surgery.
- Up to 40% of those undergoing surgery will have adhesions sometime later in their life.
  - This makes the medical and surgical history you take so important
  - Add this diagnosis to the contingency plans
- Tumors and hernias are the second and third most common causes of SBO, respectively.

32

Symptoms of SBO

The symptoms for SBO are the same as those for an ileus, and they may be an abrupt onset or intermittent acute episodes that improve and recur:

- Nausea, vomiting, "Gassiness"
- Cramping abdominal pain
- Obstipation (IE: inability to pass flatus or stool
- Abdominal distention

33

SBO Diagnosis and Treatment

DDx and Diagnostic Workup:

- See slides #14– 19 under "Abdominal Pain DDx and Workup"

Treatment:

- With or without an NG Tube, the patient is almost always NPO and receiving IV fluids.
- With an IV in place, IV meds can be given
- Most people will not need any further treatment because most SBOs improve on their own
- Occasionally, a medication for the ileus treatment may be considered (see slides #28 – 41 for treatment considerations)
  - Use even more caution in SBO due to the mechanical nature

34

Ileus vs SBO

SIGN OR SYMPTOM	Ileus	SBO
Abdominal Distention	May be present	May be present
Bowel Sounds	Usually quiet or absent	May be high-pitched / absent
Obstipation	May be present	May be present
Pain	Mild and diffuse	Moderate to severe, colicky
Peritoneal Signs	Absent	May be present
Radiography	Dilated loops of bowel, paucity of colonic gas	Dilated loops of bowel, differential air-fluid levels, paucity, absence of colon gas
Fever, Tachycardia	Absent	Should raise suspicion
Vomiting	May be present	May be present, may be bilious or feculent

35

Volvulus

- This type of bowel obstruction occurs when a part of the intestine twists upon itself not only blocking the path of GI contents, but may cut off blood supply to that part of the tract as well
- A volvulus can occur anywhere in the GI tract, but most commonly occurs in the colon
- Primary areas where a volvulus occurs
  - Cecum: about 33% of the time
  - Sigmoid colon: about 55% of the time
  - The rest of the GI Tract: about 12% of the time (combined)

36

Symptoms of Volvulus

- The clinical presentation is highly variable, ranging from insidious, intermittent episodes of abdominal pain to an acute abdominal catastrophe with incapacitating pain
- Most patients present with a gradual onset of steady abdominal pain accompanied by episodic cramping pain due to peristalsis
- Besides abdominal pain, patients also present with nausea, vomiting, and obstipation
- The duration of symptoms can vary from hours to many days

37

Diagnosis and Treatment of Volvulus

- Diagnostic Workup
  - The same work up as for an ileus or a SBO (see slides #17 – 19)
- Treatment
  - There are currently no alternatives to observation and surgery in the treatment of a patient with a volvulus that does not resolve spontaneously
  - Follow the ACP in your individual patient
  - Those with DNH or CMO will most likely prefer comfort measures with medications such as SL morphine concentrate (Trade name: Roxanol) and SL lorazepam concentrate (Trade name: Ativan Intensol)
    - Titrate the dose up carefully, until symptoms are resolved

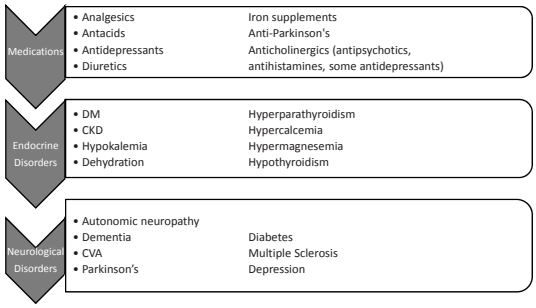
38

Constipation in the Nursing Facilities

- ❑50% of nursing home residents suffer from constipation
- ❑Many factors contribute to constipation in the nursing home
- ❑See slides #14 – 19 for the DDx and Workup if there is significant pain associated with the constipation
- ❑Some say the most easily missed and most easily treated diagnosis in the nursing home

39

Some Factors Associated with Constipation in PA & LTC



40

Goals of Treatment for Constipation

- Relieve symptoms
- Restore normal bowel habit
  - The passage of a soft, formed stool at least 3 times a week without straining.
- Improve quality of life with minimal adverse effects

41

Non-Pharmacologic Treatment of Constipation

- Replace medications that cause constipation with a safe alternative, where possible
- High fiber diet
- Foods containing high complex carbohydrates such as prunes and melons
- Encourage activity as able
- Establish routines that promote normal bowel function
  - This includes taking advantage of the gastro-colic reflex which is most pronounced after breakfast or supper

42

Impaction/stool retention

- Caution with documentation of "impaction"; use FOS (full of stool), "retained stool"
- Impaction can explain FTT, pain, paradoxical diarrhea and weight loss
- If rectal exam is negative-think about abd x-ray to R/O higher impaction
- If impaction is present
  - Double glove, ask for help, allow rest, pre-medicate if needed
  - May need multiple attempts, followed by daily enemas, bleeding is common
  - Always increase baseline constipation regimen afterwards and possible GI eval for stercoral ulcer or "failure to disimpact"

Pharmacological Treatments of Constipation

- Bulk laxatives as first line
  - Psyllium (Trade name: Metamucil)
- Osmotic laxatives can be used on those patients not responding to bulk laxatives
  - Low dose polyethylene glycol (Trade names: Miralax, GlycoLax)
  - Lactulose (Trade names: Enulose, Kristalose) is less effective than the polyethylene glycol
    - With a higher incidence of flatus
  - Sorbitol more effective than Lactulose and better tolerated
  - Magnesium hydroxide (Trade name: Milk of Magnesia) should be used with caution in elderly due to increase risk of hypermagnesemia

44

In Summary …..

- Ileus
  - 95% spontaneously resolve & initial treatment is conservative
    - NPO or clear liquids, possibly IV fluids
- Small Bowel Obstruction (SBO)
  - Most SBOs also improve on their own
    - Initial treatment is usually NPO status and IV fluids
- Volvulus
  - Usually need hospitalization, with surgery (if ACP indicated)
- Constipation
  - PREVENTION, PREVENTION, PREVENTION

45

Clostridium Difficile

PPIs & Antibiotics

- Use judiciously due to risk of C Diff
- From the "Choosing Wisely" campaign

8

Don't obtain a C. difficile toxin test to confirm "cure" if symptoms have resolved.

Rates of Clostridium difficile infection (CDI) have been increasing, especially among older adults who have recently been hospitalized or who reside in the PA/LTC setting. Patients residing in PA/LTC facilities are particularly at risk for CDI because of advanced age, frequent hospitalizations and frequent antibiotic exposure. However, only symptomatic patients should be tested. Furthermore, studies have shown that C. difficile tests may remain positive for as long as 30 days after symptoms have resolved. False positive "test-of-cure" specimens may complicate clinical care and result in additional courses of inappropriate anti-C. difficile therapy. To limit the spread of C. difficile, care providers in the PA/LTC setting should concentrate on early detection of symptomatic patients and the consistent use of proper infection control practices, including hand washing with soap and water, contact precautions, and environmental cleaning with 1:10 dilution of sodium hypochlorite (bleach) prepared fresh daily.

Traffic Analogies

- Entrance ramp blocked
  - Esophageal Food Bolus
- Roads that are in disrepair
  - Ileus
- Roads under construction
  - Adhesions or Post Operative Changes
- Blockage from Multi-car pile ups
  - Mechanical SBOs
- Blockage at the cloverleaf exits
  - Volvulus

Prevention of GI Tract Motility Disorders

- Many areas have been tried and studied
- No one therapy, surgical procedure or medication has been shown to be efficacious
- In our population, the focus of regular bowel movements, and monitoring of bowel functions can not be overstated
- Prevention of the underlying causes are the mainstays of avoiding these problems

References

- AMDA-The Society for Post-Acute and Long-Term Care Medicine. Gastrointestinal Disorders in the Long-Term Care Setting. Columbia, MD: AMDA 2016
- Gallagher, P., O'Mahoney, D., and Quigley, A. (2008). Management of chronic constipation in the elderly. *Drugs Aging, 25,* 807-821.
- http://www.uptodate.com/contents/sigmoid-volvulus?source=search_result&search=volvulus+treatment&selectedTitle=1%7E73

49

References (continued)

- http://www.uptodate.com/contents/epidemiology-clinical-features-and-diagnosis-of-mechanical-small-bowel-obstruction-in-adults?source=search_result&search=mechanical+gi+obstruction&selectedTitle=1%7E150
- http://www.uptodate.com/contents/postoperativeileus?source=search_result&search=ileus+treatment&selectedTitle=1%7E150

50

WE APPRECIATE YOUR TIME AND ATTENTION

Thank You.
Any Questions?

Laurie Sheffield, ARNP–C
laurie.sheffield@optum.com