Constipation

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Acknowledgement

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Objectives

- Describe features of a thorough assessment of constipation.
- Identify drugs from the major drug classes used to treat constipation.
- Develop a treatment plan for prophylaxis of opioid-induced constipation.

Disclaimer

While this program provides educational information, this information is not medical advice. Health care providers should exercise their own independent clinical judgment. Some of the information cites the use of a product in a dosage, for an indication, or in a manner other than that recommended in the product labeling.

Accordingly, the official prescribing information should be consulted before any such product is used.

Case Question

- An 83 year old male with lung cancer was started on long and short-acting morphine for dyspnea one month ago. He was appropriately started on senna with docusate at that time. His senna and docusate dose have been increased once. The patient presents to your clinic and has not moved his bowels in 6 days and is feeling nauseated.

- What is your next step?
  - A. Increase his senna and docusate
  - B. Try a bisacodyl suppository
  - C. Mineral oil enema
  - D. Physical exam, including DRE to r/o impaction
  - E. Wait one more day before treating as constipation

The answer is provided later in this module

Constipation--Definition

- The term “constipation” can mean different things to different people. The operational definition is:
  - **Acute**—recent decrease in frequency or increase in difficulty starting a bowel movement; less than 6 months duration.
  - **Chronic**—less than 3 BM’s per week for at least 6 months

Associated symptoms

- Patients usually use the term constipation to mean a decrease in BM's, but they may also complain of the following symptoms in addition to, or in place of, saying they are constipated:

  - ✓ Stool that is small or hard
  - ✓ Stool that is not completely evacuated
  - ✓ Increased gas
  - ✓ Abdominal or rectal pain
  - ✓ Change in stool caliber
  - ✓ Anorexia
  - ✓ Early satiety

Causes of Constipation

- Drugs
  - opioids
  - anti-cholinergics: (antidepressants, neuroleptics, anti-emetics, anti-histamines)
  - Aluminum or calcium containing antacids
  - Calcium channel blockers
  - Clonidine
  - Diuretics
  - Iron
  - Vincristine and other vinca alkaloids

Causes of Constipation

- Metabolic
  - hypercalcemia
  - diabetes mellitus
  - hypothyroidism
  - uremia
- Neurologic—spinal cord lesions
- Mechanical
  - Obstruction or pseudo-obstruction (Ogilvie's)
  - Ascites
  - Carcinomatosis
- Miscellaneous
  - Pain: generalized or rectal
  - Lack of privacy, awkward positioning (bedpan)
  - Loss of normal bowel routine
  - Lack of fluid intake
  - Delirium

Opioid-Induced Constipation

- Multifactorial causality
  - Opioid binds to gut and central nervous system opioid receptors
  - Decreased bowel fluid secretion and/or increased absorption
  - Increased tone and non-propulsive activity (the gut is moving, just not in the normal coordinated manner)

Opioid-Induced Constipation

- Key points
  - Little to no tolerance to constipation develops
  - Uncertain relationship between opioid dose and amount of laxatives needed
  - Fentanyl and methadone may cause less constipation than morphine

Assessment—Special Issues

- Is there fecal impaction?
  √ rectal exam
- Is constipation really obstruction?
  √ abdominal x-ray
- Is there a neurologic process?
  √ rectal sensation and tone, detailed neuro history and examination
- Is there a fluid/electrolyte problem?
  √ blood tests

Assessment—Special Issues

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Management

- General measures
  - Increase fluid intake
  - Restore daily bowel routine
  - Ensure privacy
  - Ensure a comfortable position for BM
  - Reverse treatable causes
  - Prophylaxis when possible

Drug Therapy

- Laxatives/Stimulants
- Osmotic laxatives
- Bulk agents
- Lubricants
- Prokinetic drugs
- Enemas
- Natural laxatives
- Opioid Antagonists

Laxatives/Stimulants

- Senna
  - Stimulates myenteric plexus to increase motility
  - Requires transformation in gut to active drug
  - Abdominal gas/cramps common
  - Available as pills, granules, tea, liquid
    - Available at health food stores, is a “natural product”

Laxatives/Stimulants, cont.

- Bisacodyl (Dulcolox ®)
  - Requires transformation in liver-excreted in bile as active drug
  - Stimulates mucosal nerve plexus
  - Abdominal gas/cramps common
  - Available as pills, suppository

Laxatives/Stimulants, cont.

- Detergent laxatives “wetting agents”
  - Docusate (Colace ®, Surfak ®)
    - Increases water absorption into stool
    - Prevents hard stool, but does not increase BM frequency
      - Not an appropriate agent to be used alone for prophylaxis of opioid induced constipation

Note! Castor oil is a detergent laxative that is not recommended for use.

Osmotic Laxatives

- Hyperosmolar agents:
  - Undigestible compounds
    - Lactulose
    - Sorbitol
    - Mannitol
    - Glycerin
    - Polyethylene glycol (Miralax ®)
- Toxicity: gas/bloating, electrolyte disturbance

Osmotic Laxatives Continued

- Saline Agents:
  - Contain non-absorbable ions such as magnesium, sulfate, phosphate and citrate
  - Ions cause water to be drawn into the colon
    - magnesium hydroxide (Milk of Magnesia®)
    - magnesium sulfate (Epsom Salt)
  - Beware magnesium toxicity in renal failure

Bulk-Forming Agents

- High-fiber foods that resist bacterial breakdown
  - Patient must be able to increase fluid intake, otherwise constipation will worsen (think of concrete)
    - Of no benefit to the bedbound dying patient

Lubricants

- Mineral oil
  - Can be used for fecal impaction or acute constipation;
    - Causes malabsorption with prolonged use
    - Do not use with docusate products
      - Increased mineral oil systemic absorption may lead to inflammation

Prokinetic Drugs

- Decrease bowel transit time
  - Metoclopramide: serotonin receptor agonist
    - Useful in gastric motility – not thought to work distally
  - Tegaserod (Zelnorm®): used for constipation-predominant irritable bowel syndrome
    - Withdrawn from market in 2007 due to concerns for cardiac toxicity

Enemas

- Saline (Fleets ®)
- Tap water or soap suds
- Oil-retention
- Other

NOTE:

- Retention of the enema for 5 to 15 minutes is usually needed to get results

Natural laxatives

- Combinations of natural products into juices, puddings or other oral preparations (e.g. *Power Pudding*):
  - Prunes
  - Dates and figs
  - Raisins
  - Apples
  - Senna
  - Other

Opioid Antagonists

- Bind to GI opioid receptors
- Acts peripherally, no reduction in opioid analgesic effects
  - MethylNaltrexone or Naloxegal
    - Approved as treatment for opioid-induced constipation,
  - Alvimopan
    - Approved only for post-operative ileus

Treatment Planning

- Prophylaxis or mild constipation
  - Combination of laxative +/- stool softener
    - Frequently senna or MOM ™ plus docusate
    - Titrate to effect

NO EFFECT?

Treatment Planning

- Reassess
  - r/o impaction and obstruction
  - Bisacodyl po or suppository

NO EFFECT ?

Treatment Planning

- Reassess
  - r/o impaction and obstruction
  - Start osmotic laxative and/or enema

Case Question

- An 83 year old male with lung cancer was started on long and short-acting morphine for dyspnea one month ago. He was appropriately started on senna with docusate at that time. His senna and docusate dose have been increased once. The patient presents to your clinic and has not moved his bowels in 6 days and is feeling nauseated.

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Answer D

- Although A and B are possible solutions, it is best to rule out impaction or obstruction before changing the medication doses
- C is incorrect because mineral oil and docusate should not be combined due to risk of systemic absorption of mineral oil leading to inflammation
- E is incorrect because it is best for patients to have bowel movements every 2-3 days while on opioids.

Rectal Impaction

- Use sedatives !!
- Lubricate rectum
  - Oil retention enema, glycerin supp.
- Manually disimpact
- Enemas to clear rectum
- Restart/Increase daily bowel program

Learning Points

List 3 new things you learned from this presentation.

1.
2.
3.

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