

## Positive Quality Intervention: Chemotherapy-, Antiemetic-induced Constipation

### Description of PQI:

The utilization of proper diet, over-the-counter medications, and alternative prescriptions can be helpful for patients suffering from multisource drug-induced constipation. Preventing this type of constipation requires less interventions than treating the symptoms once they occur.<sup>1</sup>

### Background:

Many chemotherapeutic medications, antiemetics, and pain regimens can commonly cause constipation. Drug-induced constipation, often characterized by infrequent, hard, or difficult to pass bowel movements, can significantly impair quality of life or cause severe pain, rectal fissures, or bowel obstruction.<sup>1-3</sup>

Oral chemotherapy agents that commonly cause constipation(>30%): alectinib, crizotinib, ponatinib, ixazomib, lenalidomide, niraparib, pomalidomide, rucaparib, temozolomide, and thalidomide

Anti-emetics that commonly cause constipation: 5-HT<sub>3</sub> antagonists (e.g. ondansetron)

### Diet/Exercise:

- Increase fiber intake; patients prone to small bowel obstruction (i.e. abdominal surgery) should avoid additional fiber intake
  - Whole grains, brown rice, raw fruits and vegetables, etc.
- Drink plenty of fluids
  - 8-10 glasses of water, fruit/vegetable juices, decaffeinated teas
- Try some sort of physical activity

### Drug Therapy

#### Osmotic Laxative

- Polyethylene Glycol (OTC/RX)
  - Take 1 capful/packet/heaping tablespoon (17g) of powder dissolved in 4-8 ounces of any beverage daily.
  - Onset of action: 12-72 hours

#### Stool softener

- Docusate Sodium (OTC)
  - Take 1 softgel (100mg) up to 3 times per day in divided doses
  - Onset of action: 12-72 hours

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- Can take in combination with a stimulant laxative for best results

#### Stimulant laxatives

- Senna (OTC)
  - Take 2 tablets (17.2mg) as one dose once daily to start. If needed can take up to 4 tablets (34.4mg) twice daily
  - Onset of action: 6-12 hours
- Bisacodyl (OTC)
  - Take 1 tablet (5mg) once daily to start. If needed can take up to 3 tablets (15mg) once daily.
  - Onset of action: 6-12 hours

#### Prescription Options

- Methylnaltrexone (RX only)
  - Used to treat opioid-induced constipation
  - Rule out GI obstruction – contraindicated
  - Inject 1 prefilled syringe (dose may vary) subcutaneously up to every other day as needed
  - Rotate injection site between abdomen, thighs, and upper arms
  - Discontinue methylnaltrexone immediately if severe or persistent diarrhea or abdominal pain occurs
- Naloxegol (RX only)
  - Used to treat opioid-induced constipation
  - Rule out GI obstruction – contraindicated
  - Usual dose: take 1 tablet (25mg) daily at least 1 hour before the first meal of the day (dose may differ due to tolerability)
  - Concomitant use with strong CYP3A4 inhibitors is not recommended
  - Providers may request samples directly from the manufacturer

#### **PQI Process:**

Upon receipt of an oral chemotherapy agent with known constipation side effect

- Counsel patient on constipation management
- Provide information on foods to eat to prevent the onset of constipation
- Provide stool softener and stimulant laxative to patient if patient reports signs of constipation
- Keep stool softener and stimulant laxative well stocked if patient experiences intermittent constipation
- Consider scheduling a follow up phone call with patient within one week after initiation of therapy to assess if patient is experiencing constipation

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- Assess the cause of constipation (chemotherapy/antiemetic/opioid)
- If opioid therapy is the cause of the constipation and significant effort to alleviate constipation has been made with no relief, consider prescription therapy (methylalantrexone, naloxegol, etc.)
- If antiemetic therapy is the cause of constipation provide a prescription for a different type of antiemetic for chemotherapy-induced nausea/vomiting (Refer to CINV PQI)

### **Patient Centered Activities:**

Educate patients on different forms of laxatives (bulk forming, polyethylene glycol), if bowel movements do not become regular continue on to OTC agents.

Advise patient to:

- Try to find a diet and regimen that helps to keep bowel movements regular
- Attempt to treat to what their regular bowel movement schedule would normally be
- Keep track of how many bowel movements they make in a week
- Be sure to drink plenty of fluids while taking laxative and stool softening medications
- Contact clinic if they have not had a bowel movement in 2 or more days
- Notify your provider if you have been taking OTC medications continuously for 7 days.

### **References:**

1. McQuade RM, Stojnovska V, Abalo R, Bomstein JC, Nurgali K. Chemotherapy-Induced Constipation and Diarrhea: Pathophysiology, Current and Emerging Treatments. *Front Pharmacol.* 2016;7:414.
2. Andrews CN, Storr M. The pathophysiology of chronic constipation. *Can J Gastroenterol.* 2011;25:16B-21B.
3. Kumar L, Barker C, Emmanuel A. Opioid-Induced Constipation: Pathophysiology, Clinical Consequences, and Management. *Gastroenterology Research and Practice.* 2014; <https://doi.org/10.1155/2014/141737>.

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