Symptom Management of Gastrointestinal Alterations

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Gastrointestinal Alterations

- Nausea and Vomiting
- Mucositis
- Taste Alterations
- Anorexia and Cachexia

Food is cultural!

- We eat at celebrations/gatherings
- We eat for healing
- We eat together

"All you need is love. But a little chocolate now and then doesn't hurt."
~Charles Schulz

Nausea and Vomiting Pathophysiology

D.E. Becker, 2010.

Case Study for Nausea/Vomiting

- Francesca is a 38 year old woman with AML and is going to receive high dose Cyclophosphamide and Busulfan prior to her allogenic transplant. She is nervous about her conditioning chemotherapy because she experienced severe nausea and vomiting with prior chemotherapy as well as during both her pregnancies.

Nausea/Vomiting Patterns

- **Anticipatory nausea**: a conditioned response that occurs most commonly before treatment and can be triggered by a particular smell, taste, or sight (NCCN, 2008). Occurs in about 18-54% of patients

Risk Factors:

- Poorly controlled previous CINV
- Being young or middle aged
- Female gender
- High levels of anxiety
- Susceptibility to motion sickness
- Hx of pregnancy induced nausea and vomiting

Nausea/Vomiting Patterns

- **Acute nausea:** Starts within minutes to hours after chemotherapy administration and may last up to 24 hours depending on the agent (NCCN, 2008).

Risk factors:

- Type of chemotherapy dose
- Combination chemotherapy
- Emetogenicity of chemotherapy
- Female gender
- Alcohol history use
- Tumor burden
- Susceptibility to GI distress
- Duration of infusion

Nausea/Vomiting Patterns

- **Delayed nausea:** Occurs at least 24 hours after chemotherapy administration and may last up to 6 days (O'Bryant et al., 2004). Peak is usually 48-72 hours after chemotherapy has started.

Risk Factors:

- 60-90% of patients receiving Cisplatin (Jordan, Sipple, & Schmoll, 2007)
- High dose chemotherapy, Cyclophosphamide, Ifosfamide, Doxorubicin,
- Poor control of acute nausea/vomiting

Emetogenic Potential of Chemotherapy Agents

Emetogenic Potential of Chemotherapy Agents

Nausea/Vomiting Management

First step is prevention!

Stay on a scheduled regimen throughout entire anticipated period of nausea and vomiting

Reduce stimuli (e.g. strong odors – perfume or foods)

Administer appropriate antiemetic based on treatment regimen

Pharmacological Management

Anticipatory nausea:
lorazepam (Ativan)
- -begin night prior to treatment and morning of treatment
- -side effects include: sedation, confusion, dizziness

Acute nausea:
ondansetron (Zofran), granisetron (Kytril), palonosetron (Aloxi) – 5HT3 antagonists
- -give 30 mins prior to moderate-high emetogenic chemo
- -side effects include: constipation, headache, fever

*Dexamethasone added to 5HT3 regimens increases efficacy by 15-25%!

Pharmacological Management

Delayed nausea:

aprepitant (Emend) PO or Fosaprepitant (IV) – NK1 antagonists

side effects: constipation, hiccups, diarrhea

Treatment of breakthrough nausea: prochlorperazine (Compazine) or metocloperamide (Reglan)

Case Study for Mucositis

- Francesca completed her conditioning chemotherapy. It has been 12 days since her transplant. During your assessment she complains of moderate throat pain that is worse when swallowing and oral dryness. She is unable to eat foods, but can drink liquids. When you look in her mouth you notice this:

Treister et al., 2015

Mucositis

- Definition: general term referring to inflammation to any of the mucosal membranes from oral cavity to anus
- Stomatitis refers specifically to the mouth
- Occurs in 30-40% of patients receiving standard-dose chemotherapy (NCI, 2008c) and 80% of HSCT patients (Goldberg et. al, 2004).
- Occurs around the nadir (10-14 days after chemotherapy)

Pathophysiology of Mucositis

Grading of Mucositis
WHO-NCI Toxicity Scale

*Note there are many grading scales!

Risk factors for Mucositis

- Age (very young and very old)
- Gender (females > males)
- Poor oral hygiene, ill-fitting dentures
- Smoking history or alcohol use
- Total Body Irradiation
- Head/neck radiation
- Patient on oxygen therapy or anticholinergic drugs (dries out membranes)
- Dehydration
- Chemotherapeutic agents that affect DNA synthesis

Chemotherapeutic Agents associated with Mucositis

- bleomycin
- cytarabine
- cisplatin
- carboplatin
- cyclophosphamide
- docetaxel
- daunorubicin
- etoposide
- 5-fluorouracil
- melphalan
- methotrexate
- mitoxantrone
- paclitaxel
- thiotepa
- topotecan
- vinblastine
- vincristine

Consequences of Mucositis

- Pain
- Difficulty swallowing
- Difficulty speaking
- Infection
- Bleeding
- Nutritional issues
- Aspiration
- Possible loss of airway protection

Mucositis & Nursing Assessment

Assess everyday with a light source (flash light)!

- Objective findings:
- erythema
- ulceration
- bleeding
- cracked lips
- scalloping,
- paleness
- edema
- thick secretions
- difficulty speaking

Subjective findings:
- PAIN (burning, raw)
- taste alterations
- drooling,
- inability to swallow or chew

Management of Mucositis

- No standard of care for the prevention and treatment of oral mucositis
- Prevention: Treat oral problems before treatment, high protein diet, encourage hydration, cryotherapy for bolus 5-FU and melphalan
- Treatment: Pain medications (often PCA), suction, good oral hygiene

Oral hygiene

- Keep the oral cavity clean and moist
- Floss daily if patient has been a regular flosser
- Brush with a soft bristle toothbrush if tolerated
- Saline swish and spit frequently (may add sodium bicarbonate per preference)
- Keep suction at the bedside, elevate patient's HOB

Oral hygiene

- Do not use magic mouthwash
  - benadryl can be very drying
  - Aluminum hydroxide coats oral cavity, traps bacteria
- Topical lidocaine to individual sores
- Palifermin in auto HSCT patients receiving high dose TBI

Causes of Taste Alterations

- Disease related causes: mucositis, oral thrush, antibiotic use, zinc deficiency, xerostomia

- Treatment related causes: radiation, chemotherapy
  - •Chemotherapy lowers threshold for bitter taste while increasing threshold for sweet, sour, and salty
  - •Patients often report a metallic taste in their mouth
  - •Patients often have an aversion to meat

Strasser et al., 2008

Management of Taste Alterations

- Experiment with flavors: add seasonings, sugar, spices
- Use aromatic foods to stimulate saliva
- Oral hygiene before and after meals
- Avoid alcohol, smoking
- Gum or hard-candy during chemotherapy to rid mouth of metallic taste
- Marinate meats to change taste
- Use other sources of protein
- Choose bland foods
- Avoid metallic silverware
- Avoid favorite foods
- Drink plenty of water

Consequences of Taste Alterations

- Anorexia

- Dehydration

- Decreased nutritional status

Case study for Anorexia/Cachexia

- Francesca is now 27 days post her transplant. During your daily nursing assessment you've noticed she's lost 20 pounds since being admitted to start her conditioning chemotherapy

Definitions

- Anorexia: involuntary, abnormal loss of appetite for food

…. which can lead to….

- Cachexia: wasting syndrome characterized by malnutrition and the substantial loss of adipose and muscle tissue, along with involuntary weight loss of more than 5% of usual weight

Illman et al., 2005

Causes of Anorexia

- Physiological: nausea, vomiting, pain, dysphagia, mucositis, ascities, fatigue, metabolic abnormalities, tumor effect – proinflammatory cytokines
- Medications: opioids, chemotherapy, antibiotics
- Structural: poor dentition, obstructions, surgery
- Psycho-social: Anxiety, depression, food preparation, environment

Consequences of Anorexia/Cachexia

- Decreased adherence to chemotherapy
- Increase in treatment toxicity
- More frequent hospitalizations
- Decrease in treatment response
- Decreased quality of life
- Decrease in survival

Del Fabbro et al., 2007

Anorexia/Cachexia Management

- Assessment: monitor weight, obtain diet history, measure body composition. Refer to dietician if warranted
- Evaluate laboratory results: pre-albumin, albumin, and transferrin
  - Less than normal indicates protein depletion
- Manage symptoms: nausea, vomiting, mucositis, taste changes, fatigue, diarrhea
- Treating the cancer is the primary objective

Anorexia/Cachexia Management

- Provide high calorie/high protein supplements (Odwalla, Ensure, etc)
- Encourage small, frequent meals
- Encourage physical activity: improved lean muscle mass

Anorexia/Cachexia Management

- Pharmacologic appetite stimulants: Progestins and corticosteroids are the only two classes of drugs that have limited effectiveness (Jatoi, 2006).
- Megestrol acetate is most commonly used progestin
  - side effects include: DVTs, edema, GI disturbances
- Dexamethasone and prednisone are commonly used corticosteroids
  - side effects include: euphoria, immunosuppression, hyperglycemia