

ACTIVE LEARNING TEMPLATE: **Medication**

STUDENT NAME Jordan Cathell

MEDICATION Morphine (IV)

CATEGORY CLASS opioid analgesics / Pharm: opioid agonists

REVIEW MODULE CHAPTER _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Binds to opiate receptors in CNS.
Alters perception of response
to painful stimuli while depressing
CNS

Therapeutic Use

↓ in severity of pain

Complications

hypotension, constipation, confusion,
sedation, N/V, HA

* Respiratory depression

Medication Administration

IV ≥ 50 kg: 4-10mg every
3-4hrs

IV < 50kg: 0.05-0.2mg/kg
every 3-4hrs

Max: 15mg/dose

Contraindications/Precautions

Contra: hypersensitivity, acute/mild/
intermittent post op pain, respiratory distress
Caution: substance abuse, head trauma,
renal/hepatic impairment, pulmonary disease

Nursing Interventions

- Assess pain intensity,
location and type
- Assess LOC, BP, HR, RR
- Assess bowel function
- Assess for opioid addiction

Interactions

Drug: MAO inhibitors, CNS depressants,
opioids, alcohol, general anesthetics

- kava-kava, valerian, chamomile

Client Education

- explain purpose & side
effects of medication
- how & when to ask for med
- dizziness & drowsiness
- Abuse potential
- how to recognize resp med
distress

Evaluation of Medication Effectiveness

- ↓ in severity of pain w/o a significant
alteration in LOC or respiratory status
- ↓ in sx of pulmonary edema.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME Jordan Cathell

MEDICATION Infliximab (IV)

CATEGORY CLASS Antirheumatics (DMARDs), gastrointestinal anti-inflammatories

REVIEW MODULE CHAPTER _____

PURPOSE OF MEDICATION

Pharm: monoclonal antibodies

Expected Pharmacological Action

Neutralizes and prevents the activity of tumor necrosis factor alpha (TNF-alpha), resulting in anti-inflammatory & antiproliferation activity

Therapeutic Use

↓ S/Sx of Crohn's disease
↓ # of fistulas & maintains closure of fistulas

Complications

Arrhythmias, chest pain, HF, Myocardial ischemia/infarction, abdominal pain, N/V, fatigue, HA, stroke, infection, malignancy

Medication Administration

IV: 3mg/kg
~~IV~~ Crohn's: IV: 5mg/kg
up to 10mg/kg or
tx as often as 4 wks

Contraindications/Precautions

Contra: hypersensitivity, murine proteins, moderate to severe HF
Caution: Hx of chronic/current infection, Hx TB, HF, COPD, ↑ risk of lymphoma

Nursing Interventions

- Infusion related reactions
- S/Sx of systemic infections
- Assess for latent TB
- Hypersensitivity reactions

Interactions

Drug: anakinra, abatacept, azathioprine, methotrexate, live-virus vaccines

Client Education

- explain med purpose
- S/Sx of adverse reactions
- may cause dizziness
- infection may occur
- don't receive live vaccines

Evaluation of Medication Effectiveness

• ↓ Pain + swelling w/ ↓ rate of joint destruction & improved physical function
• ↓ S/Sx of Crohn's disease & # of draining enterocutaneous fistulas

Student Name: Jordan Cathell
 Medical Diagnosis/Disease: Crohn's disease

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures
 Gastrin stimulates secretions of Parietal & Chief cells
 Parietal cells: secrete HCL & intrinsic factor
 Chief cells: produces pepsinogen → Pepsin → protein digestion
 Mucous neck cells: secrete alkaline mucus to lubricate & protect stomach from self-destruction
 Pyloric glands: secrete mucus

Pathophysiology of Disease
 • Crohn's is an inflammatory bowel disease. Involves all layers of the bowel wall. Can occur anywhere along the GI tract and have skip lesions. fistulas are common.
 • Abnormal immune response
 • can be influenced by environmental triggers & changes in gut microbiome
 - often involves distal ileum and proximal colon
 - microscopic leaks can occur

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics
Labs
 CBC
 BMP
 ESR
 CRP
Additional Diagnostics
 CT MRI
 colonoscopy
 endoscopy US
 stool culture

Rest on back!

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors
 Smoking
 diet
 stress
 genetics/environment
 ethnicity
 NSAIDs

Signs and Symptoms
 • Diarrhea
 • Cramping
 • weight loss
 • fever
 • fatigue
 • Rectal bleeding
 • constipation
 • pain
 • mouth sores
 • reduced appetite

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures
Non-surgical
 Stress management
 TNF inhibitors
 immunosuppressants
 low-fiber diet
Surgical
 strictureplasty
 Bowel resection
 fistula repair
 Abscess drainage
 colectomy
 ostomy

Prevention of Complications
 (What are some potential complications associated with this disease process)
 peritonitis
 abscess
 hemorrhage
 strictures
 perforation
 fistulas
 Obstruction
 CDI
 toxic megacolon
 malabsorption
 liver disease

NCLEX IV (6): Pharmacological and Parenteral Therapies

Anticipated Medication Management
 Aminosalicylates
 corticosteroids
 immunosuppressants
 Biologic therapies: infliximab
 Antidiarrhetics
 pain relief

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures
 bowel rest
 stress management
 probiotics
 Mindfulness
 Exercise
 low-fiber diet
 Acupuncture
 vitamin/herbal supplements

NCLEX III (4): Psychosocial/Holistic Care Needs

What stressors might a patient with this diagnosis be experiencing?
 Financial burden
 unpredictable flare ups
 chronic pain and fatigue
 mental health struggles
 social isolation

Client/Family Education

List 3 potential teaching topics/areas
 • Avoid GI irritants such as coffee, alcohol, spicy foods
 • Identifying signs of a flare up
 • Lifestyle modifications → relieve stress and exercise

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement
 (Which other disciplines do you expect to share in the care of this patient?)
 Gastroenterologist
 Dietician
 RN
 pharmacist
 Radiologist
 pain management

Purpose: Supply nutrients for use at the cellular level, meet nutritional needs, & eliminate waste

Process:
- Ingestion: taking in food → mastication (chewing) + deglutition (swallowing)

- Digestion: breaking down to molecules for absorption

- Absorption: transfer from GI tract to circulation to liver

- Elimination: excretion of waste products of digestion

GI tract A&P

Layers

- Mucosa: innermost layer. Protects, secretes, absorbs
- Submucosa: contains blood & lymph vessels, transports nutrients
- Muscularis/muscular: smooth muscle fibers arranged in circular & longitudinal groups → motility
- Serosa/seras: outer covering, protection
- Peritoneum: lines walls of entire abdominal cavity & forms the peritoneal cavity (fat covering for protection)
 - ↳ two folds: mesentery (blood & lymph) & omentum

Mouth: mastication: mechanically reduces size of food particles & mixes w/ saliva → protects esophagus from trauma by ↓ size of particles. Speech, expression, & taste

Salivary glands: parotid, submaxillary, sublingual. Salivary secretions: 1000-1500cc produced daily

Amylase: begins digestion of starches. Pharynx: nasopharynx, oropharynx, laryngopharynx

- pharyngeal muscles regulate swallowing → deglutition → initiated voluntarily (force food), involuntary (swallowing reflex), 3rd stage (peristalsis to stomach)

Esophagus: transports food to stomach. Penetrates diaphragm thru esophageal hiatus.

- upper esophageal sphincter (UES) (pharynoesophageal sphincter),
- lower esophageal sphincter (LES) (gastroesophageal) prevents acid reflux into esophagus

Stomach: mixes food w/ gastric secretions. stores food until it can pass to small intestine. Empties content at rate which digestion can occur. LES: between esophagus & stomach. Pyloric sphincter: between stomach & duodenum. Gastric emptying: Chyme composition affects emptying rate / controlled by nerve impulses, chyme & hormonal effects.

Small intestine: major site for digestion & absorption. Villi: increases surface area to enhance absorption of nutrients. Duodenum & jejunum: carbs, amino acids, lipids, iron, calcium. Ileum: water, electrolytes, bile salts & vitamins

Large intestine: absorption of water & electrolytes. stores feces until elimination. Mass movements when colon filled. Peristalsis breaks chyme into large packets, extracts water, chyme becomes solid feces.

Rectum: connects sigmoid colon & anus. 2 sphincters: ① Internal: involuntary control, autonomic nerves. ② External sphincter: voluntary control, somatic nerves. Defecation reflex: feces moves into rectum

Liver: lobule - functional units are hepatocytes. Kupffer cells: crucial filtering system. Portal vein: carries blood from GI tract. Hepatic Artery: carries oxygenated blood to liver. Removes bacteria from blood phagocytically destroy old RBCs. * Portal vein * Hepatic Artery (removes bacteria from blood)

Pancreas: exocrine acts on GI. Pancreatic juice, alkaline pH 8.30 to neutralize acid chyme. Enters duodenum via pancreatic duct to common bile duct

Gallbladder & biliary tract: gallbladder stores & concentrates bile made in the liver, bile emulsifies fats. Common bile duct carries bile & empties into duodenum. Bilirubin is a pigment derived from breakdown of hemoglobin → main component of bile excreted in feces, giving brown coloration.

Blood Supply to GI tract

- Aorta to celiac artery, superior & inferior mesenteric arteries
- Superior & inferior mesenteric arteries supply small & large intest.
- venous blood draining GI tract empties into portal vein & carries nutrient rich blood to liver
- 25-30% of total cardiac output

Secretions of GI tract

Mucous: from mouth to anus. Protects & lubricates.

Digestive secretions: enzymes, hormones, digestive juices, bile, pancreatic juices. Breaks down food for absorption

Motility of GI tract

- wavelike movements called peristalsis
- Gastrocolic & duodenocolic reflex: leads to urge to defecate after eating
- Bacteria: normal component of GI tract. Essential for function & major component of colon

Innervation

Sympathetic: inhibits or decreases digestive actions. slows down motility.

Parasympathetic impulses: ↑ frequency, strength, & velocity of GI contractions. Speeds up motility

Initials/Signature: Jordan Cathell Registered Nurse

Nursing Notes

Rm No: 411 Clinical

Actual Patient Problem: Deficient fluid volume

Clinical Reasoning: GI bleed, Hgb 7, Hct 21, RR 2.7, BP 211/56, HR 110

Actual Patient Problem: Deficient knowledge

Clinical Reasoning: unknown med effects, poor diet routine, stress management

Additional Patient Problems: Acute Pain: Colon

Goal: will not go into hypovolemic shock during my care. Met: Unmet:
 Goal: GI bleed will resolve during my time of care. Met: Unmet:
 Goal: will state ways to manage stress during my care. Met: Unmet:
 Goal: will state ways to improve diet during my shift. Met: Unmet:

Patient Problem	Time	Relevant Assessments Indicate pertinent assessment findings.	Time	Multidisciplinary Team Intervention What interventions were done in response to your abnormal assessments?	Time	Reassessment/Evaluation What was your patient's response to the intervention?
Deficient fluid volume	1630	serosanguineous effluent in ostomy bag	0800	endoscopy to find bleed	0830	Resolved bleed, clamps/tender post op
Deficient fluid volume	1630	RR 2.7 Hct 21 Hg0 7	1630	Administer 2 units PRBC (1.5-2)	1630	febrile reaction, face flushed, ↑ 38.8C
Deficient fluid volume	1630	"feel like running to faint"	1630	administered 2L NC and cold cloth to head	1630	"cold cloth is great"
Deficient fluid volume	1630	↑ 37 RR 26 BP 211/56 HR 110	1630	lowered HOB	1700	light headedness + nausea resolved
Deficient fluid volume	1930	Medicine 2 body aches all over, T 101.7F	1730	stop transfusion	1800	"I feel awful & can't use Ibuprofen"

