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Medical Diagnosis/Disease: UTI (Urinary tract infection) 1007 pg Complex: Obstruction Simple: reg UTI

2 bilat bean organs that filter blood for waste creating urine

can also be caused by intercourse, indwelling equipment or hematogenous transmission

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

NCLEX IV (7): Reduction of Risk

Anatomy and Physiology
Normal Structures
 Blood comes into the kidneys via the renal artery that goes ~~down~~ until it reaches the glomerulus. Here things, such as water, electrolytes, pass into the Bowman's capsule to be filtered and formed into urine through the rest of the nephron, the functional unit of the kidney. Blood leaves through

Pathophysiology of Disease
 • Everything sterile except urethra due to normal voiding w/ complete emptying of bladder, urine is propelled towards the bladder w/ ureteral peristaltic activity
 • Antibacterial Properties of urine decrease UTI risk, such as pH of 6 (acidic) and glycoproteins that interfere w/ bacteria growth
 • Originate in perineum and introduced via ascending route of urethra. most commonly caused by UTI bacteria, Ex: E. coli

Anticipated Diagnostics
 Labs SAID rate
 WBC, CBC
 Leukocyte esterase
 dipstick urinalysis (Nitrites = bacteria)
 micro-urinalysis
 urine culture, BUN, creat
Additional Diagnostics
 MRI, CT, Cystoscopy, Ultrasound
 and

the renal vein. once formed the urine passes through the medulla, calyx, renal Pelvis of the kidneys, down the ureters, to be held in the bladder. once full, goes out the urethra

NCLEX II (3): Health Promotion and Maintenance

NCLEX IV (7): Reduction of Risk

Contributing Risk Factors
 • indwelling equipment
 • immobile patients
 • Age (older)
 • immunocompromised patients (HIV)
 • patients treated w/ immunosuppressant drugs / corticosteroids
 • Obesity

Signs and Symptoms
 • Dysuria
 • Hesitancy
 • Intermittency (stopping void mid-way)
 • postvoid dribble
 • retention
 • incontinence
 • nocturia
 • urgency (sudden need to void)

Possible Therapeutic Procedures
Non-surgical
 • Drug therapy
 • adequate fluid
 • Bladder training
Surgical
 • ureteral reimplantation, Stents

Prevention of Complications
 (What are some potential complications associated with this disease process)
 • infection spreading if not treated = ~~septic~~ - septic
 • retention
 • pain
 • AKF

• pregnancy, menopause
 • Diabetes • poor hygiene

• multiple sex partners
 • retention

NCLEX IV (6): Pharmacological and Parenteral Therapies

NCLEX IV (5): Basic Care and Comfort

NCLEX III (4): Psychosocial/Holistic Care Needs

Anticipated Medication Management
 • Antibiotics
 • ~~Diuretics~~ • Anti-pyretics
 • IV fluids
 • NSAIDs
 • Anti-inflammatory cs
 • analgesics

Non-Pharmacologic Care Measures
 • good perineal hygiene
 • adequate fluid intake
 • Heat pad

What stressors might a patient with this diagnosis be experiencing?
 • fear of voiding on themselves
 • fear of pain
 • fear of it spreading

Client/Family Education

NCLEX I (1): Safe and Effective Care Environment

List 3 potential teaching topics/areas
 • wiping perineal area front to back after voiding/defecating
 • Drink adequate liquid (person's weight / 2 to get oz a day)
 • emptying bladder regularly / completely

Multidisciplinary Team Involvement
 (Which other disciplines do you expect to share in the care of this patient)
 Urology, Dr., nurses, pharmacy

Patient Problems (Nursing Diagnoses)

Kali Barnes

List two potential patient problems you will be addressing as part of your nurse's notes, along with clinical reasoning, goals/expected outcomes, assessments, and priority nursing interventions. The patient problems must be in priority order. Six nursing interventions for each priority problem must be completed.

Problem # 1: Acute pain: abd area, lower
Clinical Reasoning: UTI

Goal/EO: Will have a pain rating less than a 5 on a 0-10 pain scale during my time of care.

Ongoing Assessments: Assess VS - HR, BP, RR q4hr, assess pain level w/ pain scale q4hr, Assess favored position qshift, Assess favored activity qshift

- NI:
1. Administer pain medication as ordered
 2. Administer abx as ordered
 3. Educate on positioning that can relieve pain PRN
 4. Educate on diversional activities PRN (TV, read)
 5. Provide periods of rest PRN (uninterrupted)
 6. Provide heating pad PRN

Problem # 2: Risk for falls

Clinical Reasoning: frequent urination

Goal/EO: Will not fall during my care.

Ongoing Assessments: Assess morse fall qshift, assess urination frequency prn, Assess room for possible fall risks q2hrs, Assess call bell use knowledge qshift every void

- NI:
1. Educate on how to use call bell for assistance prn
 2. Educate on assistive devices to prevent falls prn (non-skid socks)
 3. Clear room of fall hazards q2hrs (lines, trash, wires)
 4. Maintain bed alarm q2hrs
 5. Educate on need for assistance to restroom prn
 6. Provide adequate lighting when ambulation

ACTIVE LEARNING TEMPLATE: **Medication**

STUDENT NAME Kali Barnes

MEDICATION Levofloxacin (IVPB), Levaquin

REVIEW MODULE CHAPTER _____

CATEGORY CLASS Fluoroquinolones, Antibiotic

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibits DNA enzyme gyrase in susceptible microorganisms, interfering with bacterial cell replication, repair. Bactericidal.

Therapeutic Use

Tx for susceptible infections caused by *S. pneumoniae*, *S. aureus*, *E. faecalis*, *E. coli*, including acute bacterial exacerbation of chronic bronchitis, acute bacterial sinusitis, community-acquired pneumonia, nosocomial pneumonia.

Complications

Side effects: Diarrhea, nausea, abd pain, dizziness, drowsiness, headache, local burning/discomfort, margin crusting, crystals/scales, foreign body sensations, ocular itching, altered taste, flatulence, pain, inflammation, swelling in the calves, hands, shoulder, chest pain, difficulty breathing, palpitations, edema, tendon pain, corneal staining, keratitis, allergic reaction, eyelid swelling, tearing, reduced visual acuity. Adverse effects: superinfection, hallucinations, tremors, vertigo.

Medication Administration

IV: for infusion using single-dose vial, withdraw desired amount (10mL for 250mg, 20mL for 500mg), dilute each 10mL (250 mg) with minimum 40mL 0.9% NaCl, D5W providing a concentration of 5mg/mL. Administer no less than 60 min for 250mg or 500mg; 90 min for 750mg.

Contraindications/Precautions

Contraindications: hypersensitivity to levofloxacin, other fluoroquinolones. Precautions: known or suspected CNS disorders, seizures disorders, renal impairment, bradycardia, rheumatoid arthritis, elderly, myasthenia gravis, severe cerebral arteriosclerosis, pts at risk for QT interval prolongation, diabetes, pts at risk for tendon ruptures.

Nursing Interventions

Monitor serum glucose, renal function, LFT. Monitor daily pattern of bowel activity, stool consistency, promptly report hypersensitivity reaction: skin rash, urticaria, pruritus, photosensitivity. Be alert for superinfection: fever, vomiting, diarrhea, anal/genital pruritus, oral mucosal changes (ulceration, pain, erythema). Monitor for muscle weakness, voice dystonia in pts with myasthenia gravis; pain swelling, bruising, popping of tendons.

Interactions

Drug: may decrease therapeutic effect BCG, antacids, sucralfate, zinc decreases absorption. NSAIDS may increase risk of CNS stimulation, seizures. Medications that prolong QT interval may increase risk arrhythmias. May increase anticoagulant effect of warfarin. Herbal: none significant. Lab values: may alter serum glucose.

Client Education

Complete drug therapy, report any s/sx or allergic reactions, report tendon swelling, bruising, tx may cause hear problems, drink plenty of fluids, report nervous system problems immediately such as anxiety, do not take aluminum.

Evaluation of Medication Effectiveness

The infection will go away.

ACTIVE LEARNING TEMPLATE: **Medication**

STUDENT NAME Kali Barnes

MEDICATION Lorazepam (PO), Ativan

REVIEW MODULE CHAPTER _____

CATEGORY CLASS Benzodiazepine, antianxiety

PURPOSE OF MEDICATION

Expected Pharmacological Action

Enhances action of inhibitory neurotransmitter gamma-aminobutyric acid (GABA) in CNS, affecting memory, motor, sensory, cognitive function. Produces anxiolytic, anticonvulsant, sedative, muscle relaxant, antiemetic effects.

Therapeutic Use

PO: management of anxiety disorders, short-term relief of symptoms of anxiety, anxiety associated, with depressive symptoms. Antidote: Flumazenil

Complications

Side effects: drowsiness, dizziness, weakness, ataxia, headache, hypotension, nausea, vomiting, confusion, injection site reaction. Adverse reactions: abrupt or too-rapid withdrawal may result in pronounced restlessness, irritability, insomnia, hand tremor. Overdose results in drowsiness, confusion, diminished reflexes, coma.

Medication Administration

PO: give with food, tablets may be crushed, dilute oral solution in water, juice, soda, or semisolid food. Dosage: 0.5mg, 1mg, 2mg. Anxiety: 0.5-2mg q4-6hr as needed up to 10mg/day.

Contraindications/Precautions

Contraindications: hypersensitivity to lorazepam and other benzodiazepines, acute narrow-angle glaucoma, severe respiratory depression. Precautions: neonates, renal/hepatic impairment, compromised pulmonary function, depression, concomitant use of CNS depressants, pts at high risk for suicidal ideation and behavior, history of drug abuse and misuse, drug-seeking behavior, dependency.

Nursing Interventions

Monitor BP, RR and HR, diligently screen for suicidal ideation and behavior, new onset or worsening of anxiety, depression, mood disorder, screen for drug abuse and misuse, drug-seeking behavior, assess for paradoxical reaction, evaluate for therapeutic response: clam facial expression, decreased restlessness, insomnia, decrease in seizure related symptoms.

Interactions

Drug: valproic acid may increase concentration/effects. Alcohol, other CNS depressants may increase CNS depression. Herbal: herbals with sedative properties may increase CNS depression. Food: none known. Lab values: none significant.

Client Education

Drowsiness subsides as therapy continues, avoid tasks that require alertness, smoking reduces effectiveness, do not discontinue meds abruptly, do not drink alcohol, seek immediate attention for thoughts of suicide.

Evaluation of Medication Effectiveness

Anxiety decreases, HR and BP go down, RR decreases, calm face, decreased restlessness.

ATI Virtual Clinical Questions and Reflection:

- 1) Identify two members of the healthcare team collaborating in the care of this patient:
 - a. **Craig, RN**
 - b. **Debbie, RN**
- 2) What were some steps the nursing team demonstrated that promoted patient safety?
 - a. **Reconciling Mrs. Jordan's medications.**
 - b. **Inspecting skin for breakdown.**
 - c. **Educating Mrs. Jordan on why the hip surgery could not happen and explaining buck's traction better.**
- 3) Do you feel the nurse and medical team utilized therapeutic communication techniques when interacting with individuals, families, and health team members of all cultural backgrounds?
 - a. **If yes, describe: I feel like the medical team utilized therapeutic communication techniques because they were very clear in their reactions, they introduced themselves and explained what was happening. They never tried to tell the patient or other team members what they should be feeling but asked how they are feeling and said to express their concerns so they can help.**
 - b. **If no, describe: N/A**

Reflection

- 1) Go back to your Preconference Template:
 - a. Indicate (circle, star, highlight, etc.) the components of your preconference template that you saw applied to the care of this patient.
- 2) Review your Nursing Process Form: Did you select a correct priority nursing problem?
 - a. If yes, write it here: **NO**
 - b. If no, write what you now understand the priority nursing problem to be: **Decreased Cardiac Output due to suspected distributive shock which means not enough blood to your heart, brain, and kidneys.**
- 3) Review your Patient Problem Form: Did you see many of your anticipated nursing assessments and interventions used? **YES (check VS, assess pain level, provide periods of rest)**
 - a. Were there interventions you included that *were not* used in the scenario that could help this patient?
 - i. **If yes, describe: To avoid the fall assess morse fall, maintain bed alarm, show how to use call bell, and educate of assistance when out of bed.**
 - ii. **If no, describe: N/A**
- 4) After completing the scenario, what is your patient at risk for developing?
 - a. **Distributive shock, sepsis**
 - b. **Why? Due to her having HF, not taking her medications, and having fluid overload her heart is not able to pump blood effectively. Leading to blood not being delivered to vital organs, in response the body started to use protective measures such as increasing the HR and BP to try and shunt blood to vital organs. But it inevitable doesn't work. Water builds up in the body not being able to be excreted by the body due to the UTI and ineffective circulation. This leads to the vessels leaking out water causing edema and fluid in the lungs. The vessels begin to widen, everything drops, but an increase in**

HR and a fever occur. But this all goes back to the heart being ineffective, causing distributive shock, which can lead to sepsis.

5) What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice?

My biggest take-away from participating in the care of this patient is that things can go from bad to worse quickly. You have to keep good assessments to catch the little things that can turn into big things. Mrs. Jordan came in for a UTI, but due to not taking her meds and receiving so much fluid on intake it caused more issues, possible leading to shock and sepsis. This impacted my nursing care because it showed me how important my assessments of my patients are. Assessments are vital to care.

Priority Patient Problem #1: Decreased Cardiac Output

<p><u>Subjective:</u></p> <p><i>This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.</i></p>	<p>History Present Illness (HPI): UTI arrived at 0500 with cloudy, yellow urine, minimal output, and was agitated. Was started on IV fluids.</p> <p>PMH: HF, Diabetes.</p> <p>Allergies: NONE</p> <p>Current Medications: Digoxin, Furosemide, Potassium chloride, Isosorbide.</p>
<p><u>Objective:</u></p> <p><i>This section is your clinical observations. Include pertinent vital signs, pertinent labs and diagnostics related to the priority problem.</i></p>	<p>Vital Signs: HR, BP, RR</p> <p>Labs: BNP, CBC, Troponin, WBC count, Kidney function test, Liver function test, ABGS</p> <p>Diagnostics: Echocardiogram, EKG, EF, urinary output</p>
<p><u>Assessment:</u></p> <p><i>Focused assessments on your priority problem.</i></p>	<ul style="list-style-type: none"> -Auscultate lungs -Assess for edema -Assess urinary output -Assess BP, HR, RR -Assess respiratory rate and pattern -Assess restlessness, confusion, chest pain, headaches
<p><u>Plan</u></p> <p>*Based on priority problem only</p> <p><i>Include what your plan is for the client. What treatments or medications are needed? You can include procedures, consults, labs/diagnostics, etc. What nursing interventions are being performed?</i></p>	<p>Plan:</p> <ul style="list-style-type: none"> -Furosemide and increase sodium intake to relieve edema -Abx to treat infection -Packed red blood cell transfusion -Bring in cardiologist to advise how to treat shock on a HF pt (Vasopressors vs ACE inhibitors) -Bring in sepsis/shock team -Limit fluids to combat fluid overload -Get CBC, KFT, LFT, Echo, EF -Raise the head of the bed -Decrease anxiety (lorazepam) <p>Teaching & Resources: Teach to always take HF medications, provide a home health assistant to ensure treatment plan is being fulfilled.</p>