ATI Real Life Student Packet
N202 Advanced Concepts of Nursing
2024

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ATI Scenario: CKD

To Be Completed Before the Simulation

*****Blue boxes should be completed using textbook information. What do you expect to find? This information should be collected before you start the ATI simulation*

Medical Diagnosis: CKD

NCLEX IV *(8)*: Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

The kidneys are two bean shaped organs that filter the blood, they are a vital part of the urinary system and help with balancing the body's fluid and electrolytes. They are located below the ribs towards the middle part of the back. The kidneys help the body eliminate liquid waste called urea and keep chemicals such as potassium, sodium and water balance. Urea is produced when food containing protein such as meat are broken down in the body. Urea is carried through the blood stream and into the kidneys where it is removed along with other waste products through urine. Urine passes through the nephron and down the renal rubes of the kidneys. The ureters carry urine from the kidneys to the bladder. The muscles in the upper wall tighten and relax forcing the flow of urine downwards, into the bladder. The bladder walls relax and store urine and contract to empty the urine through the urethra. The adrenal glands sit on top of each kidney and produce hormones that are essential to the body. There is something called a kidney capsule, which is a tough fibrous layer that surrounds the kidneys and is covered in a layer or perirenal fat known as the adipose caosule of the kidney. The adipose capsule is sometimes included in the structure of the renal capsule. This provides some protection from trauma and damage. The renal capsule is surrounded by the renal fascia. The renal capsule resists stretching, limiting renal swelling with important implications for renal circulation. Stretching of the renal due to swelling of the kidney causes flank pain.
Different parts of the kidneys:
Glomerulus: found within the nephron that filters blood for waste with selective ultrafiltration. By doing this they create the urine that is sent to the bladder.
Nephrons: are the functional part of the kidney, they filter blood and have millions of nephrons in the each kidney. This is what produces urine.
Renal vein: carries filtered blood from the kidneys to superior vena cava and back into circulation
Renal Arteries: carry unfiltered blood from the aorta and to the kidneys
Renal Papilla: are pyramid shaped structures that transfer urine to the ureters.
Renal Medulla: Is the inner part of the kidney that regulates the concentration of urine by filtering out salt, water and acid.
Renal Cortex: Where the nephrons begin.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

CKD- is the chronic progressive loss of kidney function, there are 4 stages, and the final stage which is kidney failure.
Stage 1: kidney damage with normal or increased GFR (Normal GFR = 90-120), over 90.
Stage 2: Kidney damage with mild or decreased GFR (60-80)
Stage 3: Moderate kidney damage, with a GFR 30-59, depending on how off the GFR is treatment could be more aggressive during this stage
Stage 4: Severe decrease in GFR 15-29, during this stage dialysis is needed.
Stage 5: kidney failure, GFR is less than 15, kidney replacement or dialysis is needed.
CKD affects all organ systems. Especially once that GFR is below 15
Manifestations: Cardiovascular, HTN, heart failure, CAD, pericarditis, PAD

GI: Anorexia, N/V, Gastritis, GI bleeds
Endocrine: Hyperparathryoidism, thyroid abnormalities, erectile dysfunction, amenorrhea
Metabolic: Carbohydrate intolerances, hyperlipidemia
Neurologic: fatigue, HA, sleep disturbances, encephalopathy
Ocular: Hypertensive retinopathy
Pulmonary: pulmonary edema, uremic pleuritis, pneumonia
Musculoskeletal: Vascular and soft tissues, osteomalacia, osteitis
Peripheral Neuropathy:A Paresthesia, restless leg syndrome

Electrolytes:
Potassium: Hyperkalemia- can cause fatal dysrhythmias, this is a result of decreased excretion of potassium
Sodium: sodium retention can occur dur to water retention which can cause edema, heart failure, and HTN
Magnesium: excreted by the kidneys, hypermagnesemia is not typically a problem unless a patient is digesting magnesium often
Metabolic acidosis: is a result of the kidneys impaired ability to excrete excess acid and regeneration of bicarb
CKD causes:
Diabetes, HTN, heart disease, heart failure, obesity, family hx, acute kidney injury, smoking

To Be Completed Before the Simulation

Anticipated Patient Problem: Excess Fluid volume

Goal 1: AS will have a urine output of 30ml/hr. during my time of care

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess I&O q shift	Maintain a fluid restriction diet of less than 2L/day during my time of care
Assess weight Q shift during my time of care	Notify the provider of any concerning weight gain during my time of care
Assess lung sounds and dyspnea q 2 hours	Elevate HOB to 45 degrees q shift, during my time of care
Assess HR, RR, BP, q 2 hours during my time of care	Administer ordered diuretics during my time of care
Assess LOC and mental status q shift	Report any LOC changes/neuro changes to provider ASAP during my time of care
Assess extremities for edema q shift	Elevate affected extremities above level of the heart PRN

Goal 2: AS will clear lung sounds during my time of care

To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for electrolyte imbalance

Goal 1: AS will maintain a potassium between 3.5-5 during my time of care

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess RR and breath sounds q 2 hours	Elevate the HOB to 45 degrees during my time of care
Assess potassium and sodium lab results q shift or as drawn	Adjust fluids ordered based on lab results q shift or PRN
Assess LOC status q shift	Notify the provider of any changes or concerns during my time of care
Assess I&O q shift	Administer ordered diuretics during my time of care
Assess HR and rhythm q 2 hours	Maintain telemetry and notify provider of any concerning changes during my time of care
Assess for pain related to muscle cramps/discomfort q shift	Administer ordered supplements of deficient electrolytes during my time of care

Goal 2: AS will have no signs in change of LOC or confusion during my time of care

To Be Completed During the Simulation:

Actual Patient Problem: Excess fluid Volume

Clinical Reasoning:
Goal: A.S will show no signs of sudden weight gain during my time of care Met: ✓ Unmet:☐

Goal: A.S will have no new signs/symptoms of edema during my time of care Met: ✓ Unmet:☐

Actual Patient Problem: Risk for electrolyte imbalance

Clinical Reasoning: HR of 112, sodium restriction, Potassium of 6, sinus tachycardia

Goal: A.S will maintain a normal HR between 60-100bpm during my time of care Met: ☐ Unmet:✓

Goal: A.S will show no signs of dysrhythmias or cardiac complications due to electrolytes during my time of care
Met: ✓ Unmet:☐

Additional Patient Problems:
3. Deficient knowledge
4. Readiness for enhanced nutrition
5. Activity intolerance

Below will be your notes, add more lines as needed. **Relevant Assessments:** Indicate pertinent assessment findings. **Multidisciplinary Team Intervention:** What interventions were done in response to your abnormal assessments? **Reassessment/Evaluation:** What was your patient's response to the intervention?

Patient Problem	Time	Relevant Assessments	Time	Multidisciplinary Team Intervention	Time	Reassessment/ Evaluation
1,2,5	0800	Scattered rhonchi, tachypneic and labored with activity. SOB, pitting edema +2 to lower extremities, AV fistula in left forearm bruit and thrill noted. States difficulty with completing peritoneal dialysis, recent weight gain of 13.2kg. Pitting edema +2 Tachycardia with regular rhythm, bilateral lower extremity neuropathy, blurred vision. Potassium:6, BP:170/92 HR:110 Sp02: 95% on RA	0815	Monitoring of BS ac/hs. Applied 2L o2 via NC, applied tele	0820	BP: 182/90 HR: 112, sinus tach with peaked T waves Potassium: 5.9 Spo2: 96% on 2L

		Chest ray: bilateral pulmonary venous congestions with infiltrates				
3	1100	Stated “The Dr has been describing hemodialysis with me recently, however I am confused because I have been doing peritoneal dialysis and I understand the process of exchange through my PD catheter, but hemodialysis is different, and goes through the fistula in my arm, I am not sure I really understand, can you please explain to me.”	1115	Provided information and illustration education on hemodialysis and the process	1135	Stated “Thank you for explaining this to me.”
2	1200	GFR is 8ml/min, type 2 diabetic, Stage 5 kidney failure, HGB A1C 7.4%, Na:132, BUN: 42, Creatinine: 8, ALT:20, AST:25, and glucose: 174	1210	Sodium restriction to 1.8g a day. Maintain strict I&O	1300	Output: 370ml Input: 572ml Glucose: 124
1	1315	BP: 182/90 HR: 112	1320	Administered IV bolus of 20mg Labetalol	1400	BP: 164/80 HR: 108
3	1500	Crying at the bedside, stated “I guess I am just feeling sorry for myself, this is all so overwhelming, I feel like I don’t have control over anything anymore and that my life is changing” fatigued after dialysis.	1515	Contacted case management to send information, provided therapeutic communication and encouraged AS to talk about how she is feeling. Continued monitoring for sign and symptoms of disequilibrium syndrome	1520	Very thankful for Kim case manager, stated “Kim arranged a van to take me to the dialysis in the morning and bring me back, since I do not drive”
1,2	Day 2 0800	Scatter rhonchi bilaterally anteriorly and posteriorly, RR labored, Sp02:96% 1L NC HR: 96 BP:154/84 Pitting edema +2 bilaterally	0820	Administered 20mg furosemide and 50mg Losartan Maintained tele	1000	HR: 88 BP: 134/76 Nonlabored respirations RR:18 Sp02: 97% on RA EKG showing normal sinus rhythm

3	1050	Concerned about peritoneal catheter, stated “I was told it will be taken out pretty soon and I just do not want it getting infected.”	1100	Assisted with peritoneal routine care.	1120	Stated “I clean it everyday and cover with gauze.”
4	1400	C/o having trouble selecting foods that she can and can’t have “I hate the thought of giving foods that are apart of my family tradition, like vegetable soup, peas, and chilies.”	1420	Home health RN educated/discussed better options and the benefits of changing to a healthier diet	1450	Verbalized understanding Stated “You have been so helpful in making sure I stay on the right track, thanks to you I feel more comfortable with my hemodialysis and even established a new routine, I have also met some new friends at the dialysis center and my lab work has improved.”

To Be Completed After the Simulation

The orange boxes should be filled out with your simulation patient's actual results, assessments, medications, and recommendations

NCLEX IV *(7)*: Reduction of Risk Maintenance

Actual Labs/ Diagnostics
Potassium and sodium
BUN and Creatinine
Glucose and A1C
GFR
Chest x-ray
AST
ALT

NCLEX II *(3)*: Health Promotion and

Signs and Symptoms
Blurred vision
Fatigue
Malaise
Decreased appetite
Edema bilaterally
Dyspnea/ shortness of breath
Pain in lower extremities

NCLEX II *(3)*: Health Promotion and Maintenance

Contributing Risk Factors
Hypertension
Diabetes
Weight

Therapeutic Procedures
Non-surgical
Hemodialysis

Surgical

N/A

NCLEX IV *(7)*: Reduction of Risk

Prevention of Complications
(Any complications associated with the client's disease process? If not what are some complications you anticipate)

Anxiety
Depression
Dysrhythmias
Anemia
Disequilibrium syndrome

NCLEX IV *(6)*: Pharmacological and Psychosocial/Holistic Parenteral Therapies

Medication Management

Aspirin
Linagliptin
Glipizide
Fentamicin Ointment
Tacrolimus Ointment
Tramadol
Ferric Sulfate
Epoetin
Sevelamer carbonate
Furosemide
Gabapentin

NCLEX IV *(5)*: Basic Care and Comfort Care Needs

Non-Pharmacologic Care Measures

Therapeutic communication
Renal Diet
Maintained strict I&O
Monitor glucose levels
Elevate HOB
ECG monitoring/maintaining

NCLEX III *(4)*:

Stressors the client experienced?

Transportation
Medication costs
Not having a understanding about hemodialysis

Client/Family Education

Document 3 teaching topics specific for this client.
• Educate on what hemodialysis will do and the benefits it will have for her
•Fistula care, and importance of making sure that arm

NCLEX I *(1)*: Safe and Effective Care Environment

Multidisciplinary Team Involvement
(Which other disciplines were involved in caring for this client?)

Nurses

is not used in the future for BP checks and IVs •Maintaining a low sodium diet	Physician Home health nurse Pharmacy

Patient Resources
Support groups, case management, transportation, nephrologist

Reflection Questions

Directions: Write reflection including the following:

1. What was your biggest "take away" from participating in the care of this client?

   My biggest take away would be that I didn't realize how much CKD is not only affecting the kidneys, but it can affect other systems within the body. I know people who have had to get dialysis but just the mental toll it takes on you, sitting there for hours and multiple times a week can be emotionally and physically draining.SO ensuring that they are mentally ok is important. I also think that it is very important to make sure education is being always provided so that an understanding of what is happening and going to happen is aware.
2. What was something that surprised you in the care of this patient?

   Something that surprised me was how uneducated she was on her illness/disease. She didn't know what would happen when getting hemodialysis, she didn't realize she would have to change to a healthier diet, she was just very uneducated, but I liked how the nurses advocated for her, when she had questions or what confused they would find her the answers, or reach out to someone who could. They helped relieve a lot of anxiety she had by not having a understanding of her disease.
3. What is something you would do differently with the care of this client?

   One thing I would have done differently would have been made sure she had a understanding of what was going on, I would have started out with educating or informing her provider that she had questions and was confused on what was going to happen/why hemodialysis is needed.
4. How will this simulation experience impact your nursing practice?

   It has reminded me that not everyone understands medical terminology, and that is so important to educate before you do something for a client. It also shows that not everyone has the same resources, in this simulation this lady did not even drive, so it was important that getting specific resources set up for her like transportation so she could make her appointments is important. Basically, ensuring that your patient has the proper resources for what they need is very important in helping they get the proper care needed.