N202 Unit I

Class Preparation Assignment – Sepsis Case Study

Patient Story

73-year-old man is brought to the emergency department via ambulance after being found unresponsive by his wife.

Assessment: Opens eyes but does not follow commands. Skin is warm & flushed. Lungs are clear bilaterally. Abdomen is benign with normoactive bowel sounds. Trace edema is noted in the bilateral lower extremities. A large wound is found on the right arm – erythema, moderate amount of yellow drainage (wife states this is from a gardening accident that happened a few days prior).

Vital Signs: HR 114, BP 96/52, RR 24, T 101.5, SpO2 96% on RA

Labs:

WBC	19.2	Na	144	Procal	0.6
Hgb	16	K	4.9	Lactate	2.9
Hct	44	Glu	135		
Plt	249	Cr	1.4		

Questions:

1. **What assessment findings from the information above require follow-up by the nurse? Give rationale for your choices.**
    - Loss of consciousness and inability to follow commands: May be indicative of reduced cerebral blood flow. Prolonged hypoperfusion may result in organ dysfunction and permanent damage.
    - Warm and flushed skin: May be indicative of septic shock. Skin is warm and flushed in early stages and begins to appear mottled as condition progresses. Often a result of vasodilation. Early intervention may assist in preventing further decline.
    - Trace edema in bilateral lower extremities: Result of a “capillary leak” and is indicative of septic shock/ declining health.
    - Right arm wound – Erythema with pruluent drainage: Source of infection and blood loss (Bacterial and viral infections are leading causes of septic shock). Requires prompt cultures and treatment with broad-spectrum antibiotics.
    - Vital signs (Particularly ↑ HR and RR, ↓ B/P, and ↑ T˚): Tachypnea/ hyperventilation is an early S/S of septic shock. Identifying and intervening now aids in preventing respiratory failure. Hypotension suggests hypovolemia and poor tissue perfusion. Tachycardia is a compensatory response to a declining blood pressure. Tachycardia also commonly accompanies fever (Temperature of 101.5F [Infection]).
    - Leukocytosis: Indicator of infection. Infection is a leading cause of septic shock. Patient requires prompt cultures and treatment with antibiotics.
    - ↑ lactate: Lactic acid is produced and builds up as a result of tissue hypoperfusion.

2. **The nurse recognizes that based on the patient's history and diagnosis, he is currently at risk for complications, especially septic shock, respiratory failure, and AKI.**

   Options:

   ~~Septic shock~~
   Fluid Overload
   ~~Respiratory Failure~~
   Hypertensive Crisis
   Coronary Vessel Occlusion
   ~~Acute Kidney Injury~~

Story Progression

The patient is transferred to a stepdown unit. The admitting nurse is reviewing orders for cultures and antibiotics. The patient is receiving IV fluids at 150 mL/hr after receiving two 500 mL NS bolus in the emergency department.

Assessment: Awake but confused – complaining of pain in right arm. Voided 500 mL of dark amber urine.

Vital Signs: HR 100, BP 104/88, RR 22, T 101, SpO2 97% on 2L NC

3. **Use an X for the nursing action identifying if that task is indicated, contraindicated, or nonessential.**

Nursing Action:	Indicated	Contraindicated	Nonessential
Start antibiotics prior to initiating other orders		X	
Obtain blood cultures prior to initiating other orders	X		
Change arm dressing every 2 hours			X
Administer pain medication	X		
Measure intake & output every 1 hour	X		
Apply soft restraints to prevent falls		X	

4. **When considering the patient's ongoing fluid responsiveness and organ perfusion, what assessments would be a priority for the nurse to continue to monitor? Provide at least two with rationale.**

   - Urine output (UO): UO is a primary indicator of renal perfusion and fluid status (Along with daily weights). A UO of > 30 mL/ hr. is indicative of improving renal/ organ perfusion. A UO of < 30 mL/ hr. may be indicative of continued hypoperfusion or an AKI.
   - Mental status: Listlessness, confusion, and ↓ response to painful stimuli may indicate that the patient has entered the progressive stage of septic shock. Unresponsiveness, loss of reflexes, and nonreactive pupils suggest that a patient has entered the refractory stage of septic shock. Assessing mental status frequently aids in identifying manifestations related to cerebral hypoperfusion and preventing further decline.
   - B/P, HR/ pulses, and MAP, RR, breath sounds, skin T˚ and color, bowel sounds, etc.