

## Virtual Clinical – Jones

C.N. is a 56-year-old businessman who is brought to the emergency department by a friend whom he met at Alcoholics Anonymous (AA). C.N. had called his friend because he was in such pain that he could not drive himself. C.N. has a long history of alcoholism with many periods of abstinence and relapse. He has been drinking heavily during the past 3 days and started vomiting yesterday. In addition to the continued vomiting, this morning he developed severe midepigastic pain radiating to his back that motivated him to call his friend. C.N. is divorced, lives alone, and rarely sees his two children, who are in college in another state.

Assessment findings on C.N.'s admission to the emergency department include vital signs as follows: blood pressure (BP) 106/70 mm Hg, heart rate (HR) 116 beats/min, respiratory rate (RR) 32 breaths/min, and temperature 100.2° F (37.9° C). He has a distended abdomen with guarding, severe pain on gentle palpation, and hypoactive bowel sounds. He is awake, alert, and oriented ×3, restless, and has a fine tremor of his hands. He grades his pain as 9 on a scale of 0 to 10, says that he cannot lie flat, and assumes a sitting position with his back and hips flexed. He vomits a small amount during the physical assessment, and the hemoccult testing of the vomitus is negative. The health care provider makes a diagnosis of possible pancreatitis and orders laboratory tests, an opioid analgesic, and arranges for admission of C.N. to the medical unit.

1. As you question C.N. about his recent alcohol intake, what is of *most* concern?
  - a. When his last alcohol intake was
  - b. How much alcohol he consumed
  - c. What type of alcohol he consumed
  - d. Whether he experienced a blackout period
2. The results of C.N.'s blood tests are available and include the following. Match the abnormal results with the primary etiologies
  - A. Fluid loss and third spacing \_\_\_\_\_ Calcium 7.8 mg/dL (1.9 mmol/L)
  - B. Process of fat necrosis \_\_\_\_\_ Cl<sup>-</sup> 112 mEq/L (112 mmol/L)
  - C. Vomiting \_\_\_\_\_ Hct 48%  
\_\_\_\_\_ K<sup>+</sup> 3.3 mEq/L (3.3 mmol/L)  
\_\_\_\_\_ Na<sup>+</sup> 152 mEq/L (152 mmol/L)
3. The results of C.N.'s blood tests are available and include the following. Match the abnormal results with the primary etiologies.

A. Inflammation	—	Amylase 320 U/L (5.3 $\mu$ kat/L)
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B. Pancreatic $\beta$ -cell injury	—	Glucose 194 mg/dL (10.8 mmol/L)
	-	
C. Exocrine pancreatic cell injury	—	Lipase 265 U/L (4.4 $\mu$ kat/L)
	-	
	—	WBC 14,000/ $\mu$ L
	-	

4. Does C.N.'s lab work support the initial diagnosis of pancreatitis? Explain the pathophysiology of pancreatitis in your own words.
  
5. Two hours after he received his pain medication in the emergency department, C.N. says that his pain is becoming worse. In addressing his complaints of increased pain, you recognize that
  - a. He is developing symptoms of shock that should be immediately treated.
  - b. Alcohol intoxication increases spasms of the pancreatic duct leading to increased pain.
  - c. He is manifesting drug-seeking behavior characteristic of individuals with addictions.
  - d. He may require higher doses of opioids for pain control because of cross-tolerance of alcohol to other depressants.
  
6. You understand that one of the major goals of management of the patient with acute pancreatitis is to reduce or suppress pancreatic enzymes, minimizing stimulation of the pancreas, and allowing it to rest. Match the interventions to the rationales.
 

A. Decrease of vagal stimulation, motility, and pancreatic outflow	___ Antispasmodics
B. Prevention of gastric contents from entering the duodenum	___ Nasogastric (NG) tube to suction
C. Relaxation of smooth muscles and relief of pain	___ Nitroglycerin
D. Relief of pain	___ Nothing by mouth (NPO) status

\_\_\_\_\_ Papaverine

\_\_\_\_\_ Morphine

7. You understand that one of the major goals of management of the patient with acute pancreatitis is to reduce or suppress pancreatic enzymes to decrease stimulation of the pancreas and allow it to rest. Match the medication to the rationale for administration.
- A. Acetazolamide (Diamox) \_\_\_\_\_ Decrease HCl secretion and resultant stimulation of pancreatic activity
- B. Antacids \_\_\_\_\_ Neutralization of gastric HCl acid secretion
- C. Proton pump inhibitors \_\_\_\_\_ Reduction in volume and bicarbonate concentration of pancreatic secretion
8. C.N.'s health care provider orders fluid replacement with lactated Ringer's solution; NG to low, intermittent suction; morphine sulfate 4 mg IV now and q2hr prn; esomeprazole (Nexium) continuous IV infusion; and a urinary catheter with urinary output measurement q2hr. Continuous SpO<sub>2</sub> per oximetry. Oxygen PRN via nasal cannula to keep the SpO<sub>2</sub> >92% has also been ordered. You administer the morphine, as ordered, and monitor C.N. for potential side effects. Which side effect is the *highest* priority?
- Confusion
  - Hypotension
  - Urinary retention
  - Respiratory depression
9. You notice that the fine hand tremors that C.N. had on admission have become coarser, and he is becoming increasingly restless and anxious. You immediately notify the health care provider, anticipating an order for what medication?
- Glucagon
  - 10% calcium gluconate IV
  - phenytoin (Dilantin)
  - lorazepam (Ativan)
10. Why do you anticipate the health care provider will order this medication? What will this medication do for C.N.?

11. You recognize that the hyperactivity caused by alcohol withdrawal puts C.N. at higher risk for complications because it causes increased body metabolism and subsequent stimulation of pancreatic secretions. Match each complication of pancreatitis with its associated symptoms.

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|---|--|
| A. Hemorrhagic shock                          | _____ Shortness of breath, tachypnea, hypoxia                                  |
| B. Hypocalcemia                               | _____ High fever, leukocytosis, and an abdominal mass                          |
| C. Pseudocyst                                 | _____ Abdominal pain, palpable epigastric mass, nausea, vomiting, and anorexia |
| D. Pancreatic abscess                         | _____ Numbness and tingling around the lips and fingers                        |
| E. Acute respiratory distress syndrome (ARDS) | _____ Pallor, hypotension, and tachycardia                                     |

Three days after admission, C.N. becomes confused and agitated, complaining of increasing abdominal pain. His vital signs are as follows: BP 80/60 mm Hg, HR 140 beats/min, RR 42 breaths/min, and temperature 103.4° F (39.7° C). His skin is pale but warm, and his level of consciousness has decreased. His abdomen is distended and tender to palpation. The health care provider orders a contrast-enhanced CT scan that shows increased inflammation of the pancreas. The CBC reveals a WBC of 20,400/ $\mu$ L with bands of 18%. C.N. is transferred to the ICU for initiation of hemodynamic monitoring and a higher level of care.

12. What do C.N.'s symptoms indicate?
- Sepsis
  - Septic shock
  - Systemic inflammatory response syndrome
  - Multiple organ dysfunction syndrome
13. What is the priority of care for C.N.?
- Relief of pain
  - Hemodynamic stability
  - Improved cognition
  - Achieving normothermia
14. In the ICU, hemodynamic monitoring is initiated along with fluid resuscitation. Once the central venous pressure (CVP) is greater than or equal to \_\_\_\_\_ mm Hg,

norepinephrine (Levophed) is started to increase \_\_\_\_\_. (Select two answers.)

- a. 2
  - b. 4
  - c. 8
  - d. Heart rate
  - e. Blood pressure
15. In order to facilitate excellent nursing care for C.N., it is necessary to appropriately delegate to unlicensed assistive personnel (UAP). Identify interventions that would be either appropriate or inappropriate to delegate with either an 'A' or an 'I'.
- \_\_\_ Administer IV morphine as needed for pain.
  - \_\_\_ Assess level of consciousness every hour.
  - \_\_\_ Auscultate lung sounds at least every 4 hours.
  - \_\_\_ Evaluate intake and output.
  - \_\_\_ Obtain hourly vital signs, including hourly urinary output.
  - \_\_\_ Provide oral care at least every 4 hours.
  - \_\_\_ Titrate norepinephrine infusion rates based on patient's mean arterial BP readings.
16. C.N. asks for his children to be notified that he is very ill. When you talk to them, they both say that they do not care what happens to him because he never cared for them while they were growing up. What is the your best response to the children?
- a. "I know you are angry, but he could die, and you should visit him while you still can."
  - b. "I can understand your feelings. He asked that you be notified about his condition."
  - c. "This crisis is an opportunity for you to tell him how you feel and to resolve the issues between you."
  - d. "No matter what he did or didn't do while you were growing up, he is your father and you should respect that."
17. Ten days later, C.N. has survived the acute episode of septic shock. Hemodynamic monitoring is discontinued, and the patient is transferred back to the medical-surgical unit. C.N.'s pancreatitis appears to be resolving and the nurse begins

discharge planning. Identify appropriate teaching statements by highlighting your choices. There are 6 correct statements.

- Caffeinated beverages should not be consumed.
- Supplemental fat-soluble vitamins may be needed.
- You must restrict your alcoholic intake to one drink per day.
- Small, frequent meals will be better tolerated than larger meals.
- You can expect to become diabetic as a complication of the acute pancreatitis.
- Your diet should be low carbohydrate to decrease stimulation of pancreatic secretions.
- Report any increase in abdominal discomfort, constipation, or foul and fatty stools.
- Smoking should be avoided.
- A low-fat diet will help prevent a recurrent attack by minimizing pancreatic stimulation.

C.N. is discharged home after a 1-week-long hospitalization. He is grateful for the excellent care he received and recognizes the importance of follow-up care and adherence to his medical and dietary therapy. He tells you that he finally has the ultimate reason to stop drinking in that he now truly understands the risks involved with alcohol ingestion. He plans on attending Alcoholics Anonymous (AA) meetings to keep him on track.