



THE LEADER OF GI DISORDER HOSPITALIZATIONS

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OUTCOME & OBJECTIVES

Understanding, diagnosing and treating acute pancreatitis

1. Pathophysiology

- Describe the process

2. Causes

- List at least two causes

3. Diagnosis & Care

- Identify how to diagnose and treat

PRESENTATION OF THE CLIENT

- John, male, age 48, presents to ED
 - Appears disheveled, fine hand tremors, faint smell of alcohol
 - Sudden onset of severe epigastric pain, radiates to his back
 - Has some relief from the pain if he sits up and forward
 - Lying flat is unbearable
 - Severe nausea and vomiting
- History
 - No known medical history or allergies
 - Does not regularly see a health care provider
 - Drinks several alcoholic daily
 - Does not smoke



CLIENT ASSESSMENT

- Examination
 - BMI is 25.3
 - Vitals: BP 108/68, pulse 107 BMP, respirations 22/min and a temperature of 99.9 F
 - Breath sounds are normal, lungs clear
 - EKG indicates sinus tachycardia
 - Abdomen, guarding, perfuse tenderness, distention and absent bowel sounds
 - Wife at bedside
- Diagnostic findings
 - Troponin level negative
 - Elevated amylase and lipase levels
 - BAC 0.169
 - Abdominal ultrasound confirms acute pancreatitis

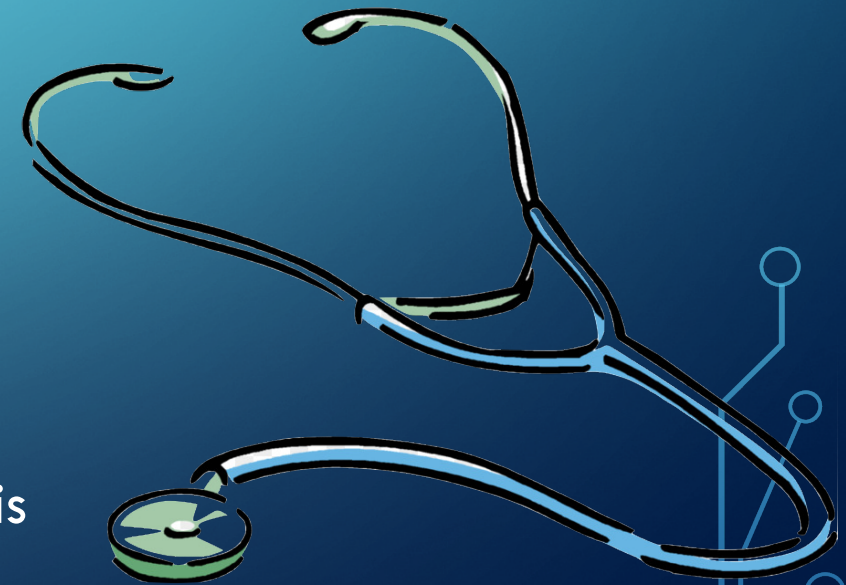


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THE DISEASE PROCESS

- What does the pancreas do?
 - Breaks down food in the small intestine
 - Releases insulin
- Anatomy of the pancreas
 - Located behind the stomach
 - Presence of three different cells
 - Acinar cells
 - Ductal cells
 - Endocrine cells
- What happens in acute pancreatitis?
 - Inflammation of the pancreas
 - Early activation of enzymes within the pancreas causes the inflammation

Healthy pancreas

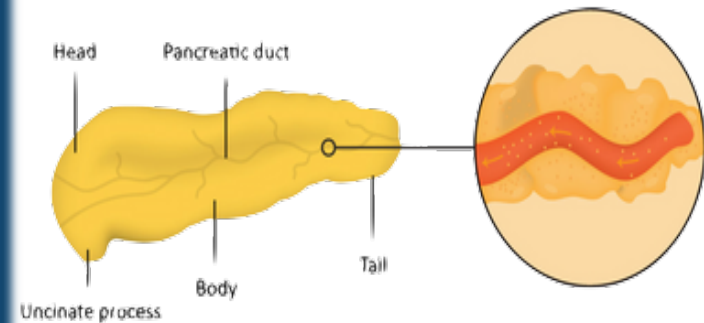
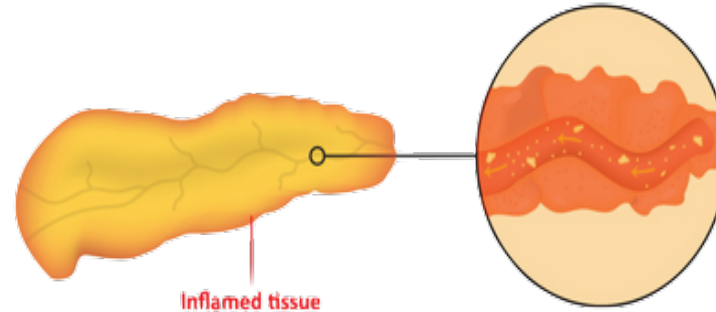


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Inflamed pancreas



I GET SMASHED Mnemonic

Pancreatitis

Idiopathic

Gall Stones

Ethanol (Alcohol)

Trauma

Steroids

Mumps / **M**alignancy

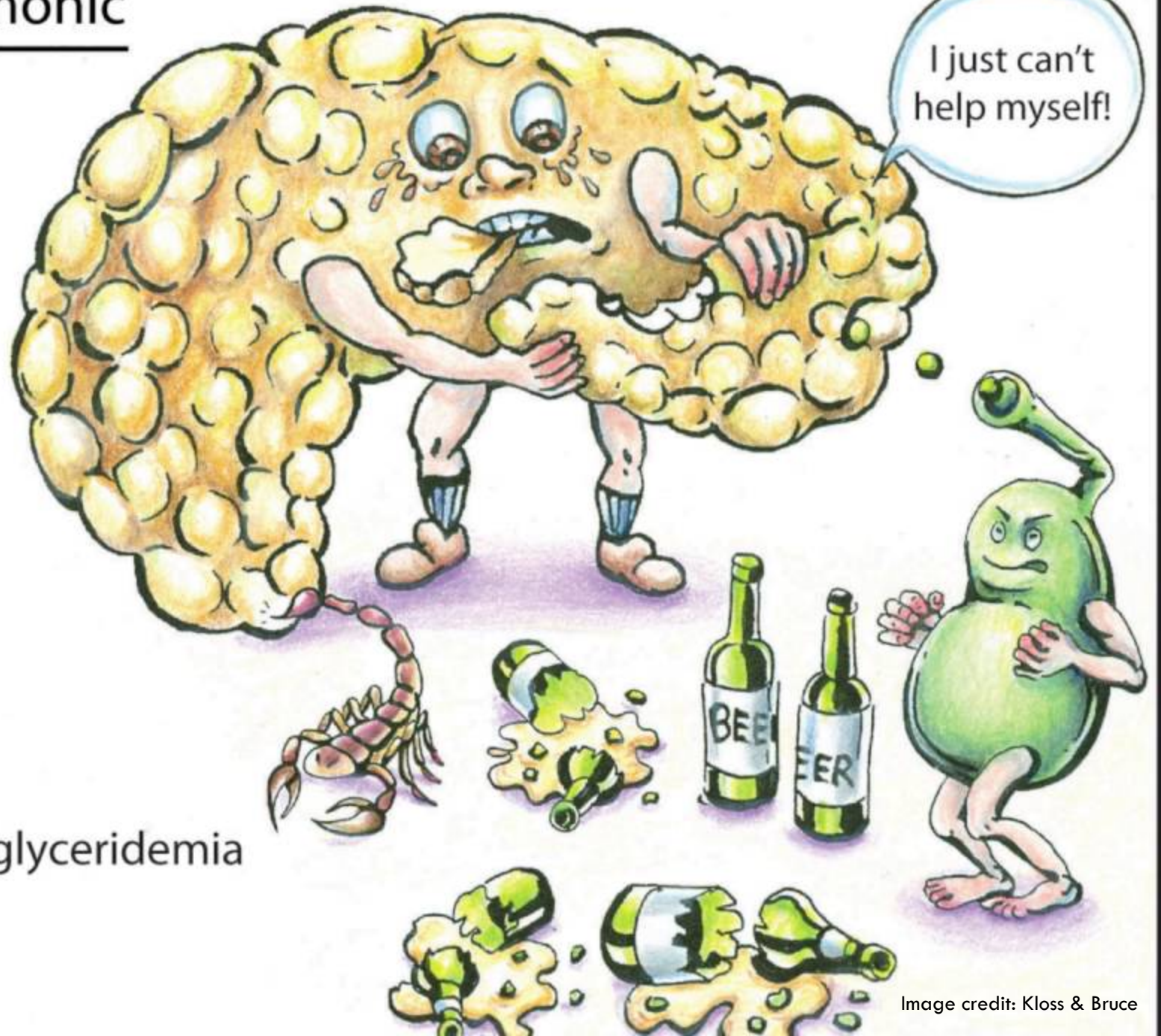
Autoimmune

Scorpion Stings

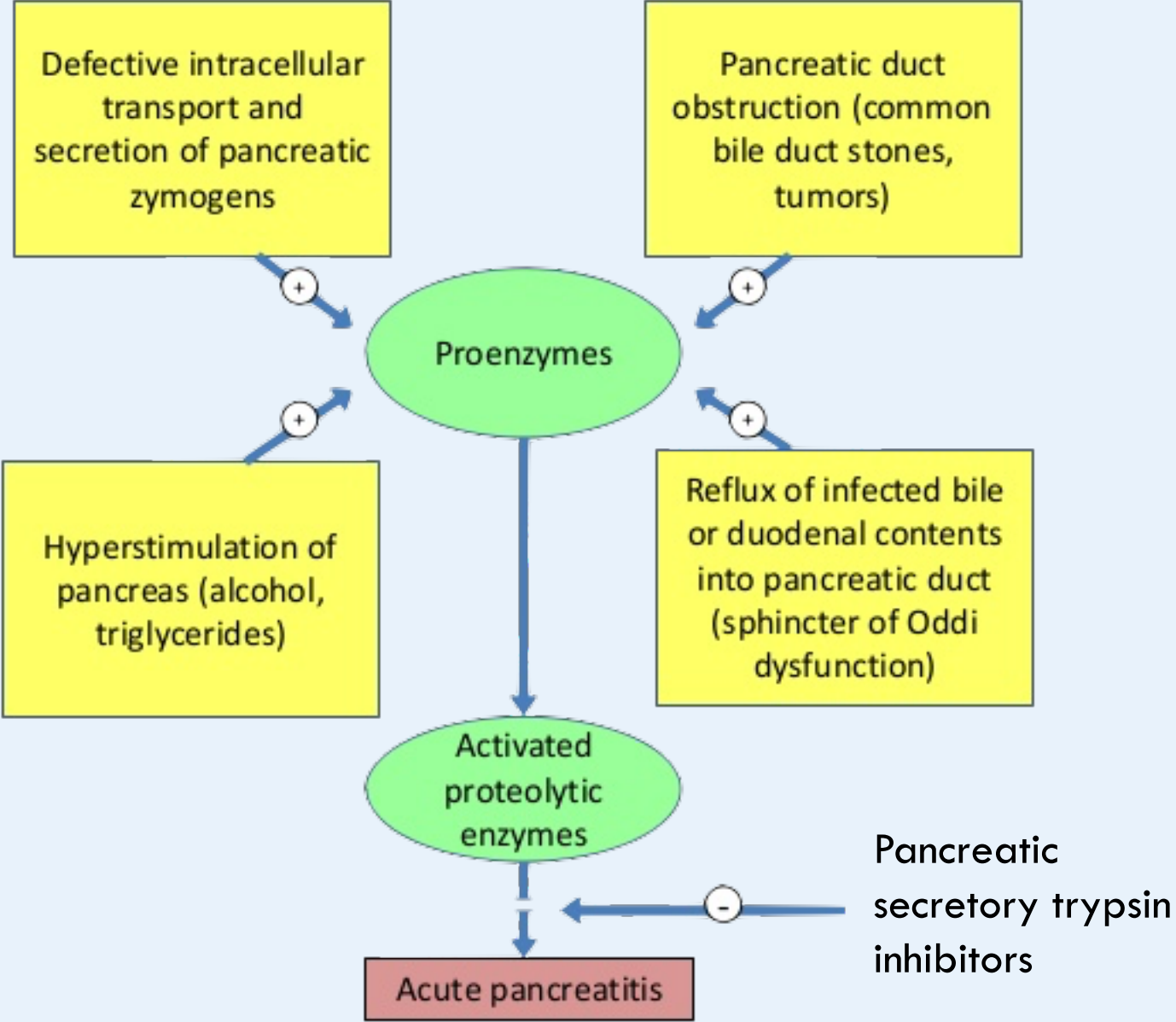
Hypercalcemia / **H**ypertriglyceridemia

ERCP

Drugs



PATHOPHYSIOLOGY



- Proinflammatory cytokines and vasoactive peptides release into the bloodstream
- Vasodilation, hypotension, and shock can occur
- Concern for infection
- Chronic pancreatitis can result

(McCance & Huether, 2016)

SYSTEMIC AFFECT ON THE BODY

COMMON SUBJECTIVE DATA

- Cardinal sign is epigastric or midabdominal pain (McCance & Huether, 2016)
 - Sudden onset, dull, steady pain (Jarvis, 2016)
 - Radiates to the back
 - Worse after eating (Mayo Clinic Staff, 2018)
 - Lying supine does not relieve and/or worsens the pain
 - Leaning forward or in fetal position can ease pain (Jarvis, 2016)



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PHYSICAL ASSESSMENT



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- Hypotension
- Fever
- Tachycardia
- Severe, persistent nausea, usually with vomiting
- Abdominal tenderness
(Mayo Clinic Staff, 2018)
- Abdominal distension (McCance & Huether, 2016)
- Anorexia
- Diarrhea
(Jarvis, 2016)
- Jaundice (Afghani, 2014)

DIAGNOSTIC FINDINGS

- Lab tests
 - Elevation of amylase and lipase blood serum levels
 - By at least three times the normal level
(Afghani, 2014)
 - Lipase usually increases 4-8 hours after onset
 - Serum trypsin
 - Serum C-reactive protein, procalcitonin, and BUN
(McCance & Huether, 2016)
- Imaging
 - CT scan
 - Ultrasound
 - MRI
(Afghani, 2014)



Image credit: Google Images

- No specific treatment
- Typically managed conservatively
 - Home care for mild cases
 - Hospitalization required if unable to tolerate liquids or pain medication

(Afghani, 2014)

TREATMENT

- Nurse role
 - Implementation EBP and current research
 - Include patient preference
- Interventions
 - Vitals to assess hemodynamic stability
 - Intravenous fluids - Lactated Ringer's
 - Digestive rest
 - Monitor labs
 - Pain management
 - Opioids
 - NSAIDS
 - ERCP



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HOSPITALIZATION

- Substance abuse
 - Resources and support
 - Abstinence for alcohol only cure
- Home care
 - Follow-up after discharge
 - Diet and nutrition
 - Bland foods
 - High protein, nutrient dense
 - Avoidance of fatty foods

PATIENT EDUCATION

PATIENT VARIANCES



Image credit: Google Images

- Gallstones
 - Nutritional education
 - Avoiding fatty foods
 - High protein
 - Increase fiber intake
 - Avoid refined carbohydrates and added sugars
 - Include healthy fats
 - May require removal of the gallbladder

(Pancreatitis Diet, n.d.)

NEW INSIGHTS

- Practice standards have remained mostly consistent
- Changes to treatment
 - Pain management
 - Choice of Lactated Ringer's
- Focus is to avoid complications

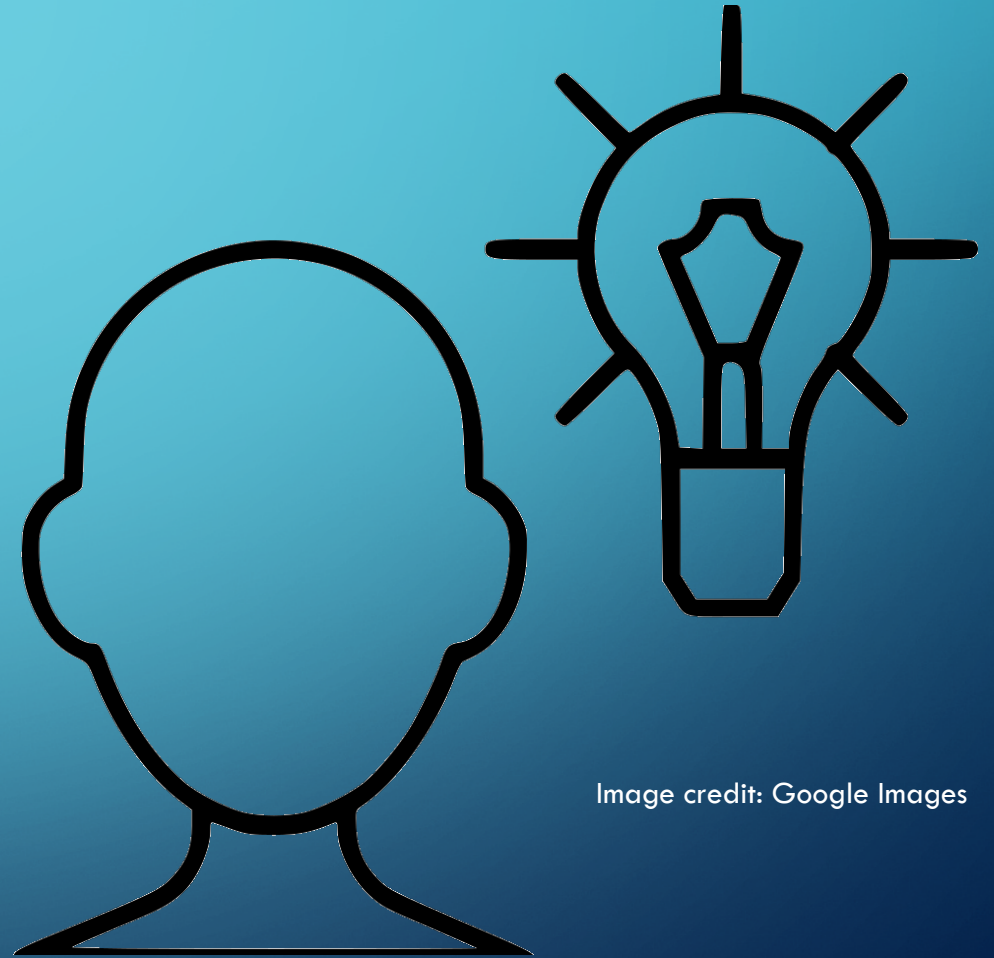


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Question One

In the example of John and acute pancreatitis, what lab finding is *MOST* significant in diagnosing acute pancreatitis?

- A. Serum amylase
- B. Serum lipase
- C. Troponin
- D. Blood alcohol level

APPLICATION

Question One

Answer is B. Serum lipase

Lipase is considered to be the most reliable, especially when levels are at least three times higher than the high end of normal.

APPLICATION

Question Two

After determining John's levels of lipase, which test should be ordered by a physician to confirm the diagnosis of acute pancreatitis?

- A. Abdominal ultrasound
- B. CT scan
- C. MRI
- D. ERCP

APPLICATION

Question Two

Answer is A. Abdominal ultrasound

Together with the complaints of upper gastrointestinal pain and elevated lipase levels, an ultrasound of the abdomen can confirm the diagnosis of acute pancreatitis and also rule out any obstruction within the ducts.

APPLICATION

Question Three

John was admitted for fluids and pain management. Which of the following would the nurse expect the physician to order?

- A. 250-500 mL per hour of Lactated Ringer's
- B. 500-1000 mL per hour of Lactated Ringer's
- C. 250-500 mL per hour of D5 NS
- D. 100 mL per hour of normal saline

APPLICATION

Question Three

Answer is A. 250-500 mL per hour of Lactated Ringer's

Giving IV fluids early, specifically Lactated Ringer's, can help prevent or reverse the alteration of pancreatic microcirculation.

APPLICATION

Just-A-Minute (JAM) Activity

1. What is acute pancreatitis?
2. Two common causes
3. Three nursing interventions for the hospitalized patient

REVIEW

CONCLUSION

- Case presentation of John
- Pathophysiology of acute pancreatitis
- Diagnosis of acute pancreatitis
- Treatment
- Patient education

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QUESTIONS?

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