

Case Study: Pancreatitis

A 44 year old male patient has been admitted to the medical-surgical unit of the hospital for after seeking treatment for nausea, vomiting, and severe abdominal pain. The patient developed sudden and intense pain in the right upper quadrant the evening before and waited a few hours before seeking treatment. He has a history of substance abuse and has been in rehabilitation for both alcohol and stimulant abuse. He currently still uses both alcohol and methamphetamines, despite previous attempts of treatment at detoxification centers.

Upon admission, the patient is anxious and restless, complaining of severe pain that is unrelieved by pain medication. The nurse contacts the provider to ask for further orders for opioid medications to treat the pain. The provider also orders further diagnostic tests to confirm the cause of the patient's pain and symptoms as well as a **500mL bolus of Lactated Ringer's solution IV, followed by a regular rate of LR at 150 mL/hour. How long will this IV run at 150 mL/hour 3hrs and 20min**

Please answer questions completely and use references:

1. What types of diagnostic tests would most likely be ordered that could determine the cause of this type of abdominal pain? And why do you choose those diagnostic tests?

- Blood tests to look for elevated levels of pancreatic enzymes
- Computerized tomography (CT) scan to look for gallstones and assess the extent of pancreas inflammation
- Abdominal ultrasound to look for gallstones and pancreas inflammation
- Endoscopic ultrasound to look for inflammation and blockages in the pancreatic duct or bile duct
- Magnetic resonance imaging (MRI) to look for abnormalities in the gallbladder, pancreas and ducts

2. What laboratory tests would the provider most likely order? And why do you think certain labs tests would be chosen?

Blood test because blood amylase or lipase levels are typically three times the normal level during acute pancreatitis. Imaging tests because they provide information of the structure of the pancreas, the ducts that drain the pancreas and gallbladder, and the tissues surrounding the pancreas.

3. What effects would the patient's history of drug and alcohol abuse have on his abdominal pain? What do you believe is the diagnosis for this patient and why?

The pancreatic acinar cells metabolize alcohol into toxic byproducts that damage pancreatic ducts, and enzymes that are normally released into the digestive tract build up and begin to digest the pancreas itself. The damaged pancreatic tissue promotes inflammation, which leads to further damage of the pancreas.

I believe this patient has acute pancreatitis because of the painful attacks that developed suddenly because of the patient's alcohol and stimulant abuse.

After answering these questions see next page:

The provider orders an abdominal ultrasound and several laboratory tests, including a CBC, CMP, Glucose, Serum amylase, and serum lipase. **The nurse is also given an order for IV fentanyl to be given prn every 4 hours for pain control. (What is wrong with this order?) The CNS depressant effects of opiate agonists may be additive with those of alcohol. Severe respiratory depression and death may occur.** After undergoing the ultrasound, the provider considers the patient may have acute pancreatitis caused by inflammation: there are several lesions noted on the pancreas that may have been caused by chronic alcohol use.

4. Based on the diagnosis of acute pancreatitis, what laboratory values would the nurse expect to see in this patient? What certain lab values would be abnormal and why? What are the labs that pertain to pancreatitis? Why are these labs abnormal with pancreatitis? Were you right in questions 1, 2 & 3 about labs, diagnostics and diagnosis? Yes.

Laboratory values the nurse expect to see are elevated.

Lab values that would be abnormal:

- Amylase – level are 3 times the normal.
- Lipase – level 3 times the normal.
- WBCs – elevated if infection or abscess is present.
- Hematocrit – determine the extent of hypovolemia and can predict extent of blood loss.

Labs that pertain to pancreatitis are lipase and amylase.

Lipase -levels start to rise w/in 4-8 hours of the onset of pancreatitis symptoms and typically return to normal w/in a week. Acute pancreatitis is diagnosed if the lipase level reaches 3 times above the upper limit.

Amylase – levels start to rise 2-12 hours after the onset of acute pancreatitis symptoms and typically return to normal w/in a week. Acute pancreatitis is likely if the level reaches 3 times above the upper limit of normal.

5. Why is pain control such an important component of management of acute pancreatitis?

Pain control is important of management of acute pancreatitis because repeated episodes of inflammation can cause irreversible damage, and pain relief becomes much less effective.

6. What are some other orders would the nurse expect from the provider?

Other orders the nurse would expect from the provider include triglycerides, calcium, magnesium, c-reactive protein, CT scan, endoscopic retrograde cholangiopancreatography, and a magnetic resonance cholangiopancreatography.

7. What teaching should be done for this patient?

Self-care:

- Start off with drinking only clear liquids, such as soup broth or gelatin.
- Eat a healthy diet that is low in fat, high in protein and carbohydrates.
- Eat smaller meals and eat more often.
- DO NOT drink any alcohol or use stimulants

Managing pain:

- Always talk to your provider before taking any medications or herbs.
- Use Tylenol or nonsteroidal anti-inflammatory drugs, such as ibuprofen (Advil, Motrin), at first to try and control your pain.

When to call the doctor:

- Very bad pain that is not relieved by over-the-counter drugs
- Problems eating, drinking, or taking your drugs because of nausea or vomiting
- Problems breathing or a very fast heartbeat
- Pain with fever, chills, frequent vomiting, or with feeling faint, weak, or tired
- Weight loss or problems digesting your food
- Yellow color to your skin and the whites of your eyes (jaundice)

Answer all questions and drop into drop box labeled Clinical
Drop box 3/26

References

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