

**Internal Medicine Clerkship**  
Case Discussions

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**Acute Pancreatitis**  
Student Guide

**Objectives:**

1. Identify characteristics and relevant review of systems that may indicate acute pancreatitis including preceding episodes of biliary colic.
2. Assess for risk factors for acute pancreatitis including prior pancreatitis, cholelithiasis, hypertriglyceridemia, and causative medications.
3. Assess for social risk factors including alcohol use.
4. Identify key physical exam findings that may suggest an underlying etiology including liver disease and hypertriglyceridemia.
5. Identify and interpret key laboratory and imaging tests and list indications, benefits, test characteristics, risks, and costs of testing:
  - a. Determine severity including calcium levels.
  - b. Determine cause including ALT and triglycerides level.
  - c. Determine extent and presence of associated complications including use of ultrasound and CT.
  - d. Estimate prognosis including use of BISAP, SIRS, and CRP.
6. Describe a rational and evidence-based approach to treating a patient with acute pancreatitis:
  - a. List treatments that control symptoms including pain control.
  - b. List treatments that reduce risk of complications including IV fluids and electrolyte monitoring.
7. Describe possible complications including pseudocyst development and chronic pancreatitis.

**Clinical Case 1:**

A 58yo with history of hypertension and hyperlipidemia presents to the emergency room with complaint of severe abdominal pain for one day. He reports that the pain started abruptly, is located near his umbilicus and radiates to his back. He has had difficulty keeping down foods due to nausea and vomiting. He denies tobacco use, reports he has 3 drinks per day after work, and denies illicit drugs. He currently takes amlodipine 10mg daily and atorvastatin 40mg daily.

On exam his temperature is 100.5F, BP 158/90, HR 106, RR 22, and pulse oximetry 96%. He is overweight and appears to be in distress. His HEENT exam is negative for scleral icterus or other findings, his lung exam is normal, and his cardiac exam only reveals tachycardia. He is tender to palpation in his epigastrium and umbilical areas but is guarding throughout the exam.

**Laboratory data:**

WBC 13.5  
Hgb 10.4  
MCV 102  
Plts 460

Na+ 129

Updated 4/12/24 MRE

K+ 4.3  
Cl- 110  
CO2 22  
BUN 80  
Cr 2.4  
Glucose 89

ALT 263  
AST 241  
AP 156  
TB: 0.68

Lipase 1,284

Chest x-ray: no acute findings

**Questions:**

1. What are the most common causes of acute pancreatitis? Given this patient's history what is the most likely cause?
2. Are there any other specific findings on his exam you would want to evaluate him for?
3. What additional lab tests or imaging tests would you perform for this patient?
4. Describe the BISAP (Bedside Index of Severity in Acute Pancreatitis) score for pancreatitis and calculate this patient's score.

Additional evaluation is completed. The triglyceride level is 233, and his US shows evidence of acute pancreatitis (increased pancreatic volume with surface irregularity and marked decreased in echogenicity) but no evidence of common bile duct dilation or gallstones.

**Questions:**

5. How would you treat the patient at this time?
6. What is the patient's overall prognosis at this point?

The patient reports significant improvement in his symptoms over the following two days and his lab tests begin to normalize. He is able to start a low-fat diet and tolerate it. He is requesting to be discharged.

**Questions:**

7. Is there anything else you should do for the patient prior to his discharge, and what should his follow-up entail?

Six months later the patient returns to the emergency room with similar symptoms from his initial episode. His repeat labs and US suggest a recurrent pancreatitis without evidence of gallstones. He is admitted for treatment. Three days later his pain is no better despite aggressive pain control and fluid resuscitation. He has a fever to 102F and is tachycardic to 126.

**Questions:**

8. At this point what are you concerned about, and what further evaluation would you do for the patient?

Patient's CT scan is shown below:



**Questions:**

9. What is noted on the CT scan, and how would you treat the patient at this time?

The patient improves on the antibiotics which are discontinued after one week. His pain has subsided. He is counseled again to stop drinking, and follow-up with his primary physician is arranged.

**Questions:**

10. If the patient continues to have recurrent episodes of pancreatitis, what additional complications is he at risk for?

**References:**

Harrison's Principles of Internal Medicine, 21e. Chapter 348: Acute and Chronic Pancreatitis  
<https://accessmedicine-mhmedical-com.archer.luc.edu/content.aspx?bookid=3095&sectionid=264533282>

Harrison's Principles of Internal Medicine, 21e. Chapter 347: Approach to the Patient with Pancreatic Disease  
<https://accessmedicine-mhmedical-com.archer.luc.edu/content.aspx?bookid=3095&sectionid=264533250>

Harrison's Manual of Medicine, 20e. Chapter 154: Pancreatitis  
<https://accessmedicine-mhmedical-com.archer.luc.edu/content.aspx?bookid=2738&sectionid=227558982>

Symptom to Diagnosis: An Evidence-Based Guide, 4e. Chapter 3-9: Acute Pancreatitis  
<https://accessmedicine-mhmedical-com.archer.luc.edu/content.aspx?bookid=2715&sectionid=249057895>

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