

Introduction

Acute pancreatitis (AP) is an inflammatory disease of the pancreas that usually presents with epigastric pain radiating to the back. AP is a critical condition that can lead to multi-organ failure if not diagnosed early. It is diagnosed with 2 of the following: characteristic abdominal pain, imaging consistent with acute pancreatitis, and lipase levels greater than 3 times the upper limit of normal. The negative predictive value of lipase for diagnosing acute pancreatitis is between 92% and 100%. We present a rare case of acute pancreatitis with normal serum lipase levels. Our findings highlight the vital utility of imaging for diagnosing acute pancreatitis in the setting of normal lipase levels.

Case Presentation

An 80-year-old female presented with a 1-day history of epigastric pain radiating to her back associated with nausea, vomiting, and loss of appetite. Her past medical history was significant for hypertension, NIDDM II, and atrial fibrillation. She had no recent medication changes and took amlodipine, metformin, metoprolol, and apixaban. Previous surgeries included cholecystectomy and appendectomy. She abstained from alcohol, tobacco, or recreational drug use. She reported abdominal trauma from a bicycle collision one week prior to arrival.

Vital signs were remarkable for T 101.2 F. She did not appear in acute distress. Her physical exam was remarkable for epigastric tenderness on palpation. Murphy, Cullen, and Grey-Turner signs were absent. Laboratory evaluation revealed WBC 12.8 k/uL, lipase 29 U/L, amylase 52 U/L, AST 13 U/L, ALT 21 U/L, ALP 58 U/L. Lipid profile and EtOH levels were within normal limits. Laboratory value trends are displayed in table 1. CT of the abdomen and pelvis revealed interstitial edematous pancreatitis as shown in figure 1. She was started on aggressive intravenous fluid resuscitation, metoclopramide for nausea, and intravenous acetaminophen for pain. Her abdominal pain progressively resolved, and she tolerated a full diet by day 3.

Images



Figure 1: CT Abdomen & Pelvis performed on admission demonstrates an edematous appearance of the pancreatic parenchyma with faint peripancreatic fat stranding consistent with acute pancreatitis.

Laboratory Evaluation

Table 1: Laboratory Values

	Admit	Day 1	Day 2	Day 3	Day 4	Normal Range
Hemoglobin	8.8	7.8	9.3	8.6	9	12.0-15.0 g/dL
WBC	12.8	7.4	5.9	5.7	6.2	3.4-11.0 *10 ³ /uL
Amylase	52	39				29-103 U/L
Lipase	29	12	16	18		13-60 U/L
Calcium	8.9	8.1	8.9	8.8	8.4	8.4-10.2 mg/dL
Alk Phos	58	44	46	59	54	40-129 U/L
ALT	21	16	29	17	11	10-50 U/L
AST	13	10	14	12	16	13-39 U/L

Discussion

AP is a critical condition that requires early diagnosis. The negative predictive value of elevated lipase levels for diagnosing AP ranges from 92% to 100%. Our patient was diagnosed with acute pancreatitis due to trauma in the setting of normal lipase levels. We demonstrate the utility of imaging in diagnosing acute pancreatitis in the setting of normal serum lipase levels.

References

- Orkin SH, Trout AT, Fei L, Lin TK, Nathan JD, Thompson T, Vitale DS, Abu-El-Hajja M. Sensitivity of Biochemical and Imaging Findings for the Diagnosis of Acute Pancreatitis in Children. *J Pediatr*. 2019 Oct;213:143-148.e2. doi: 10.1016/j.jpeds.2019.06.028. Epub 2019 Aug 6. PMID: 31399249; PMCID: PMC6765403.
- Esmaili H. A, Mehramuz B, Maroufi P, Ghasemi A, Pourlak T. Diagnostic Value of Amylase and Lipase in Diagnosis of Acute Pancreatitis. *Biomed Pharmacol J* 2017;10(1).