



School of Medicine

Acute Necrotizing Pancreatitis as a Sequela of Covid-19 Infection

Vatsal Khanna, Trishya Reddy, Tripti Nagar, Alaa Taha, Bernadette Schmidt, Vesna Tegeltija
WAYNE STATE UNIVERSITY – INTERNAL MEDICINE

INTRODUCTION

The coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Although COVID-19 has been primarily affects the lungs, gastrointestinal (GI) involvement has also been reported.

The GI manifestations of COVID-19 infection include anorexia, nausea, vomiting, abdominal pain, and diarrhea.

We report a case of a 46-year-old male with no significant past medical history who developed acute necrotizing pancreatitis after the resolution of COVID-19 infection.

CASE

A 46-year-old male with no past medical history presented to our hospital with epigastric abdominal pain. The patient denied any alcohol intake, smoking, or drug abuse history. The patient was discharged a week ago following the resolution of the COVID-19 infection. Vitals were stable on admission. Physical examination revealed severe epigastric tenderness and no signs of peritonitis. Clinical laboratory results were remarkable for elevated serum lipase levels >3000 U/L. Complete blood count, liver function, and lipid panel were within normal limits. Abdominal ultrasound showed no evidence of gallstones, cholecystitis, or intra or extrahepatic biliary dilation. Abdominal Computed Tomography (CT) with intravenous (IV) contrast showed peripancreatic fat stranding suggestive of acute pancreatitis (Figure 1). Magnetic resonance cholangiopancreatography was done, which confirmed the above findings. Autoimmune pancreatitis was ruled out with normal serum IgG-4 levels. Management included aggressive IV fluid therapy, antiemetics, and opioid analgesics.

On day 3 of admission patient reported worsening abdominal pain. Labs showed worsening leukocytosis at 25,000. A repeat CT abdomen showed findings suggestive of acute necrotizing pancreatitis. The patient received one week of broad-spectrum antibiotics, reported resolution of symptoms, and was able to tolerate diet on the day of discharge.

DISCUSSION

- COVID-19 infection primarily affects the lungs; however, gastrointestinal involvement has also been reported.
- The mechanism of pancreatic injury in COVID-19 is due to the high expression of ACE2 receptors in the pancreatic cells.
- Glycosylated-spike protein of the virus binds to ACE2 receptor and mediates the host cell invasion causing cytopathic pancreatic harm.
- The lack of association with known causes of pancreatitis and necrotizing pancreatitis in our patient suggests that the coronavirus is the cause of necrotizing pancreatitis in this patient.

FIGURES



Figure 1: CT scan of the abdomen showing features suggestive of acute necrotizing pancreatitis

CONCLUSIONS

- In conclusion, COVID-19-induced AP is possible and can present even after the resolution of viral infection, as seen in our case.
- COVID-19-induced AP is rare, and other common etiologies must be ruled out.
- Emergency physicians should be aware of this diagnostic conundrum, have a high index of suspicion in patients presenting with acute abdominal pain during this pandemic, and set a low threshold for further evaluation with imaging.

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