

CASE REPORTS

Acute pancreatitis after upper endoscopy

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Received: June 7, 2016

Accepted: September 13, 2016

Online Published: September 19, 2016

DOI: 10.5430/crim.v3n4p41

URL: <http://dx.doi.org/10.5430/crim.v3n4p41>

ABSTRACT

A 50-year-old man with child's A cirrhosis from steatohepatitis presented for a routine upper endoscopy to screen for gastroesophageal varices. He subsequently developed acute pancreatitis after this procedure. Here we report a case of acute pancreatitis occurring as a rare complication after an uneventful, diagnostic upper endoscopy. A review of the literature as well as possible etiologic factors are described.

Key Words: Acute pancreatitis, Upper endoscopy

1. INTRODUCTION

Esophagogastroduodenoscopy (EGD) is a commonly performed procedure that is used to examine the upper gastrointestinal tract. An EGD has dual diagnostic and therapeutic potential. It can be used to diagnose the etiologies of abdominal pain, diarrhea, weight loss, abnormal imaging of the gastrointestinal tract, dysphagia, and gastrointestinal bleeding with the potential to treat acute ulcer or variceal bleeding or to dilate symptomatic esophageal, gastric, or duodenal strictures. In patients with cirrhosis of any etiology, performing an EGD is standard of care at diagnosis to screen for esophageal or gastric varices. If a cirrhotic patient has a previous history of variceal bleeding then an EGD is indicated at regular intervals for lifelong surveillance to prevent future bleeding. Although upper endoscopy is a safe procedure, iatrogenic complications may arise. These include bleeding, infection, and perforation of the gastrointestinal tract. Acute pancreatitis has been found to occur in about 1% of all patients who underwent endoscopic retrograde cholangiopancreatography (ERCP),^[1] however, it is currently not considered to be a well-recognized complication of an EGD.

Here we report a case of acute pancreatitis that developed after a diagnostic EGD that occurred in a cirrhotic patient undergoing routine screening for gastroesophageal varices.

2. CASE PRESENTATION

A 50-year-old Caucasian man with Child-Pugh A cirrhosis from non-alcoholic steatohepatitis presented for a routine outpatient EGD to screen for gastroesophageal varices.

The upper endoscopy was performed and reported small esophageal varices (see Figure 1) and erythema in the gastric corpus and antrum (see Figure 2). The procedure was performed with ease with no interventions performed and he was discharged with no immediate complications noted. Less than 2 days later, the patient presented to an urgent care facility complaining of new onset epigastric pain radiating to the back, nausea, and vomiting. He was admitted since he was intolerant of oral intake.

This was his first episode of pancreatitis. He denied any recent alcohol use and had a cholecystectomy performed in 2012. His baseline ultrasound had a normal common bile duct at 4 mm and no gallstones. The only medication at the

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time of presentation was a proton pump inhibitor for reflux. Calcium and triglyceride levels were normal and the biliary tree was normal on abdominal imaging.

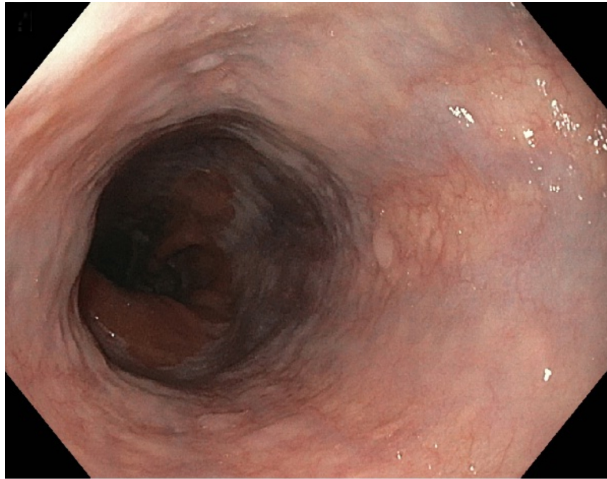


Figure 1. Small esophageal varices in the distal esophagus

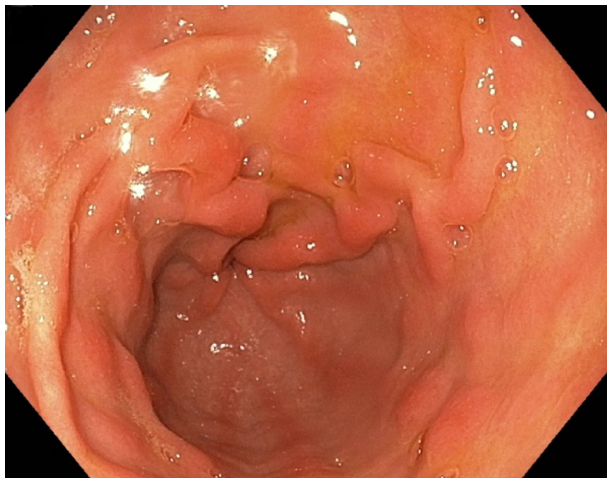


Figure 2. Erythema in the gastric antrum

He was tender in the epigastrium on physical exam without rebound or guarding, had no fever and hemodynamically stable.

Laboratory analysis reported a lipase of 5,966 U/L (normal range 73-350 U/L) and amylase of 495 U/L (normal range 17-95 U/L). Computed tomography (CT) scan of the abdomen revealed a cirrhotic liver and the pancreas had surrounding inflammatory stranding without fluid collections, ascites, or any evidence of bowel perforation (see Figure 3). Based on his symptoms, elevated lipase, and CT scan he was diagnosed with acute pancreatitis.

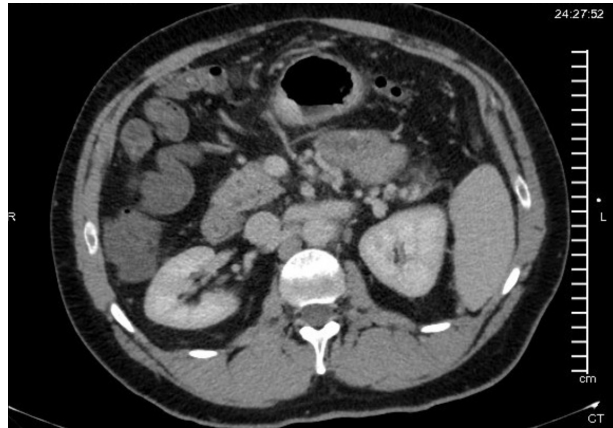


Figure 3. Inflammatory stranding around the tail of the pancreas

After four days he went home with resolution of his symptoms and the lipase returned to normal values.

3. DISCUSSION

Complications are generally uncommon with upper endoscopy, but the most commonly reported are bleeding, infection, and perforation of the gastrointestinal wall. Individuals who are thrombocytopenic at the time of the procedure and/or have coagulopathies are expected to be more susceptible to bleeding-related issues; however, upper endoscopy is considered safe even for patients with platelet counts as low as 20,000. Bleeding risk does increase if a biopsy is to be performed. Overall, the incidence of bleeding after endoscopic procedures is < 1%. Infections are usually a consequence of the procedure itself or the use of contaminated endoscopes, but the incidence of infection remains very low. The incidence of infection with endoscopic procedures is approximately 1 in 1.8 million procedures.^[2] In regards to perforation and tearing of the gastrointestinal wall, the perforation rate was reported to be 1 in 2,500 to 1 in 11,000 and Mallory-Weiss tears are a rare occurrence, less than 1% of diagnostic endoscopies.^[3]

Common etiological risk factors for acute pancreatitis include alcoholism, gallstones, trauma, surgical procedures, medications such as hydrochlorothiazide, ERCP, infections, hyperlipidemia, and hypercalcemia.^[4] At present, only four previous incidences of acute pancreatitis after an EGD have been reported in the literature. In at least two of these reports, there were no indications of pre- or co-existing etiological risk factors in the patients. The timing between the EGD and presentation of acute pancreatitis led to the suspicion that the procedure was the cause of the complication. Potential causal mechanisms of acute pancreatitis presented in these reports involve local mechanical trauma to the pancreas or over-insufflation of the duodenum, which may cause irrita-

tion to the pancreas.^[5,6] Of these mechanisms, the former is considered to be most probable.

In addition to the four reports of acute pancreatitis post-EGD, there have also been three previous reports of acute pancreatitis post-colonoscopy. All three of the reports agree that the most probable cause is mechanical trauma to the pancreas.^[5,7,8] Other proposed causes include over-insufflation around the splenic flexure and transverse colon that would produce pressure trauma to the pancreas or induced inflammatory responses that are secondary to local trauma.^[5,7,8]

While a causal relationship between upper endoscopy and acute pancreatitis is currently not well-defined, the timely development of acute pancreatitis shortly after the EGD in our patient provides potential evidence for one. Furthermore, our patient did not exhibit any of the etiological risk factors associated with acute pancreatitis. Given these circumstances, we suspect that the pancreatitis was most likely a result of mechanical trauma or over-insufflation of the duodenum in proximity to the pancreas.

4. CONCLUSION

Upper endoscopy is a relatively safe procedure routinely performed for diagnostic and therapeutic evaluation of the gastrointestinal tract. The most common complications of an EGD, such as bleeding, infection, and perforation all occur at rate of < 1%. Meanwhile the most known causes of acute pancreatitis include alcoholism, gallstones, direct trauma, medications, and infections. This is the fifth reported case of acute pancreatitis developing after an EGD. The exact mechanism is unclear, but over manipulation of adjacent structures is suggested based on previous reports. Thus, acute pancreatitis should be regarded as a rare, potential complication of upper endoscopy and should be considered on the differential if other more common etiologies of acute pancreatitis have been excluded.

CONFLICTS OF INTEREST DISCLOSURE

The authors have declared no conflicts of interest.

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