

Obstructive Acute Pancreatitis Secondary to PEG Tube Migration

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ABSTRACT

Percutaneous gastrostomy is a well-established method of providing enteral nutrition to patients incapable of oral intake, or for whom oral intake is insufficient to meet metabolic needs. In comparison to total parenteral nutrition, enteral feeding is advantageous in that it helps maintain gut mucosal integrity, which decreases the risk of bacterial translocation through the gastrointestinal tract. Complications include bleeding, aspiration, internal organ injury, perforation, peristomal leaks, tube dislodgement, and occlusion. Acute pancreatitis secondary to percutaneous gastrostomy tube migration is rare. We present a patient with acute obstructive pancreatitis secondary to percutaneous gastrostomy tube migration.

INTRODUCTION

In patients for whom oral feeding may be insufficient to meet basic metabolic demands, or for whom oral feeding is not possible, enteral and parenteral nutrition are the recommended methods to ensure adequate daily nutritional intake.^{1,2} In the acute hospital setting, feeding through the gastrointestinal tract may be accomplished through the use of a nasogastric, nasoduodenal, or nasojejunal tube. If there is a prolonged need for enteral feeds (ie, >4 weeks), more definitive measures must be taken.^{1,2} Percutaneous endoscopic gastrostomy (PEG) is a procedure with a high success rate (>95%) and low mortality (0.53%). Complications are not uncommon (1.5-9.4%) and must be considered prior to PEG tube placement.³ Major complications include aspiration, bleeding, internal organ injury, necrotizing fasciitis, buried bumper syndrome, and perforation, whereas minor complications reported in up to 6% of patients include local wound site infections, peristomal leaks, and tube dislodgement or occlusion.¹⁻⁵

CASE REPORT

A 47-year-old female with a history of meningioma status postcraniotomy and ventriculoperitoneal shunt presented to the emergency department with nausea, vomiting, and midepigastic pain. The patient had presented before with similar symptoms, which were determined to be secondary to the patient's PEG tube being displaced to her pylorus. Her original PEG tube was placed through the abdominal wall into the gastric body securely without complication. Physical examination revealed the presence of active bowel sounds, diffuse abdominal tenderness to palpation, and the presence of a PEG tube with the external bumper marked at 10 cm. The patient's presenting labs showed lipase 4,409 U/L, aspartate aminotransferase 479 U/L, alanine aminotransferase 605 U/L, alkaline phosphatase 231 U/L, total bilirubin 0.9 mg/dL, and γ -glutamyl transferase 372 U/L. The patient had a history of cholecystectomy, no recent trauma or travel, and no history of excessive alcohol intake.

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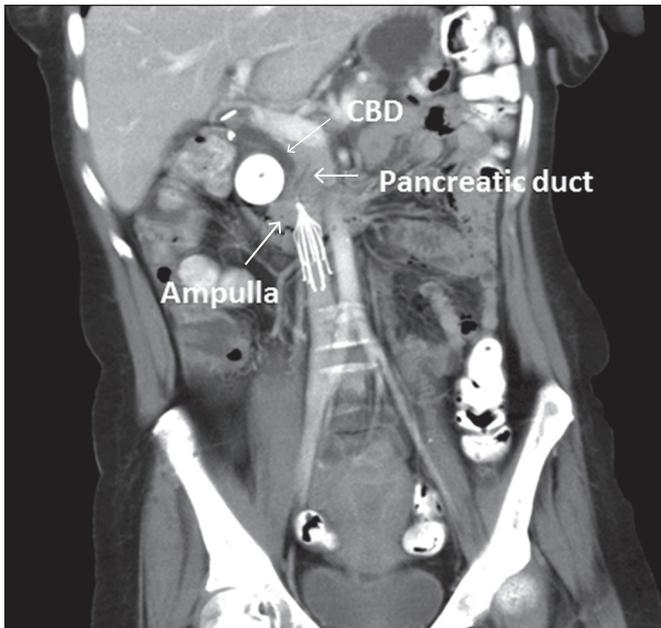


Figure 1. Interval dilation of the common bile duct (CBD) and pancreatic duct secondary to ampullary obstruction. Peripancreatic inflammation suggestive of acute pancreatitis.

Contrast-enhanced abdominal computed tomography showed dilation of the common bile and pancreatic ducts likely secondary to ampullary obstruction from the PEG tube balloon in the second portion of the duodenum (Figure 1). There was also peripancreatic inflammation, suggestive of acute pancreatitis. The patient was subsequently taken back to the gastrointestinal suite, where the PEG balloon was deflated and removed with subsequent relief of her symptoms. A new PEG tube was placed with no recurrence of her abdominal discomfort. The external bumper on the patient's original PEG tube was noted to be loose, thus was the likely cause of PEG tube migration. Her pancreatic and liver-associated enzymes continued to trend downward, and she was discharged the following day.

DISCUSSION

Percutaneous endoscopic gastrostomy tube placement has become the preferred method for long-term enteral nutrition in patients incapable of oral intake or in patients with insufficient intake to meet daily metabolic needs. In comparison to other methods, such as total parenteral nutrition, enteral feeding offers the benefit of maintaining gut mucosal integrity and decreasing the possibility for bacterial translocation.² It is a relatively safe procedure, with the most common procedure-related complications including bleeding, infection, aspiration, pneumoperitoneum, buried bumper syndrome, tube

dislodgement, and formation of granulation tissue.¹⁻⁵ Migration of the gastrostomy tube has been associated with gastric outlet obstruction and biliary obstruction.⁴ In rare cases this can manifest as acute pancreatitis either through ampullary obstruction at the second part of the duodenum or through compression of the pancreatic head itself, leading to obstructive pancreaticobiliary disease.⁴⁻⁶

Patients typically present with nonspecific symptoms such as nausea, vomiting, and epigastric pain. Laboratory findings typically include elevated pancreatic and liver-associated enzymes, and imaging can show pancreatic inflammation with or without dilated biliary and pancreatic ducts consistent with obstruction. This case underscores the importance of appropriate gastrostomy tube placement and education for caregivers on routine examination of the PEG site to ensure appropriate placement. Marking the level at which the catheter is set in the patient is useful in tracking the position of the tube and should be documented at the time of placement. The treatment for acute pancreatitis secondary to PEG tube migration is PEG tube removal, which is followed by placement of a new PEG tube.⁴⁻⁸

DISCLOSURES

Author contributions: DF Taylor wrote the manuscript and is the article guarantor. R. Cho provided images and references for the manuscript. C. Womeldorph edited the manuscript. V. Nguyen and A. Sunnapwar interpreted the images.

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Informed consent was obtained for this case report.

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