

Perforated Marginal Ulcer Resulting in a Gastropericardial Fistula: Endoscopic Management of a Rare Complication After Roux-en-Y Gastric Bypass

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Background

Gastropericardial fistula is an extremely rare condition with very few cases reported worldwide. Common presenting symptoms are similar to other etiologies of pericardial effusion and can include chest pain, and dyspnea.¹ Contributing etiology is most commonly prior gastric or esophageal surgery.³ Enteropericardial fistulas are associated with a high mortality rate with some reports greater than 50%.⁴

Case Report

Our patient is a 55-year-old male with a past surgical history of roux- en-y gastric bypass in 2017. He presented to an outside hospital with chest pain and chills. Computed tomography (CT) of his chest on initial presentation revealed a large pericardial effusion with pneumopericardium (Fig. 1). A pericardial drain was placed, and removed two days later. The pericardial fluid reaccumulated, and a subsequent CT with oral contrast revealed a gastropericardial fistula. He was taken to the operating room and a pericardial window was created for drainage, and a drain was placed adjacent to the window. Intraoperative endoscopy revealed a perforated marginal ulcer.

A nasogastric tube was placed at this time. After a week with no clinical improvement, a transfer was requested to our facility for additional treatment. The morning of transfer, the patient was taken to the operating room for an upper endoscopy. The gastropericardial fistula was visualized (Fig. 2), and overlapping covered stents were deployed from the mid esophagus to the proximal jejunal roux limb (Fig. 3). These were then secured in place with an endoscopic suturing device (Fig. 4). A contrast swallow study the next day showed no extravasation of contrast into the pericardium (Fig. 5).

He ultimately recovered from his pericardial infection, and tolerated a full liquid diet. During his hospital stay, a concerning liver lesion seen on initial imaging was eventually biopsied. The pathology and imaging were consistent with intrahepatic cholangiocarcinoma. Instead of pursuing aggressive treatment, the patient and his family elected to focus on comfort measures and he was discharged to a physical rehabilitation facility with hospice care.

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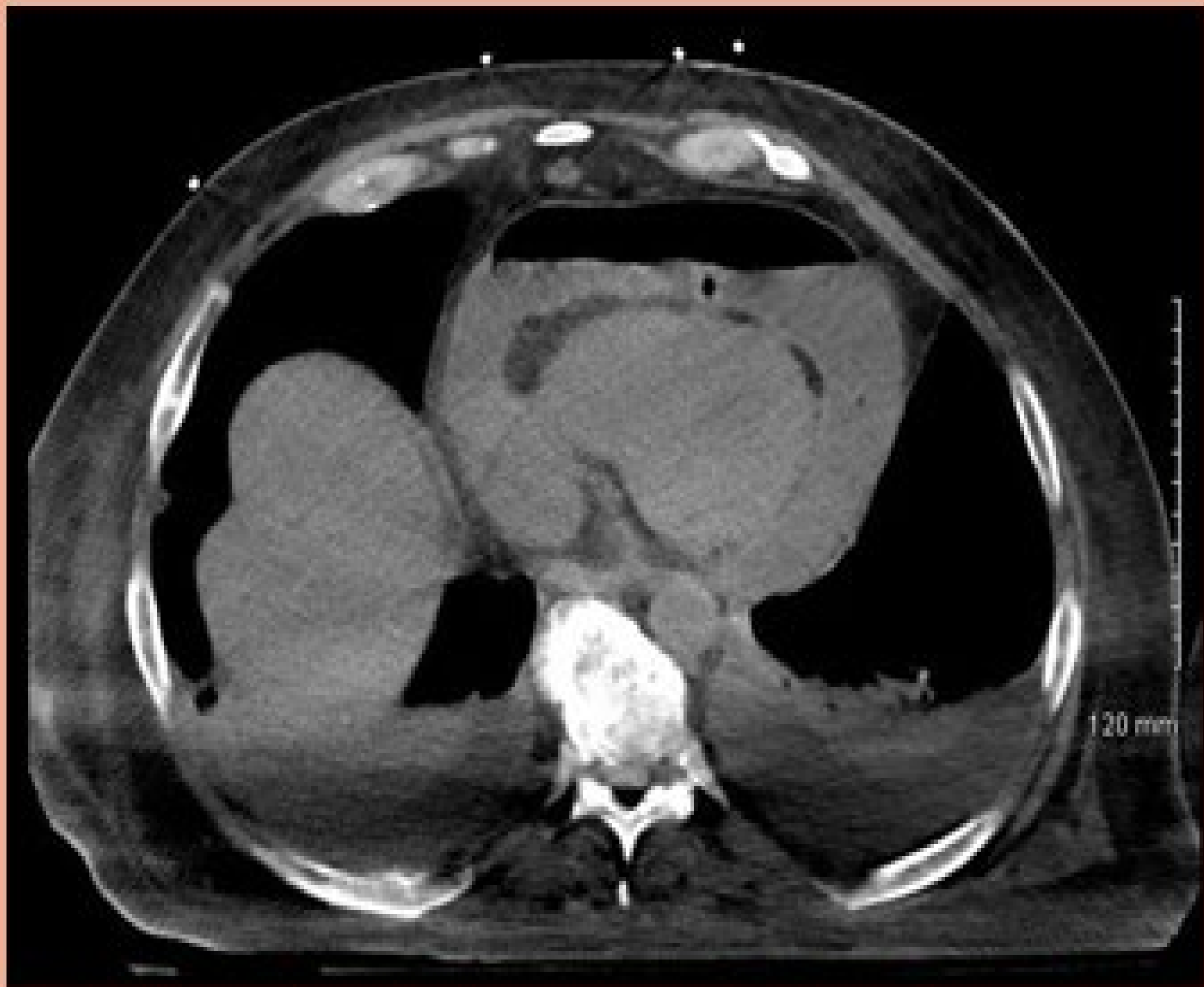


Fig. 1: CT scan demonstrating pneumopericardium, and pericardial effusion.



Fig. 2: Gastropericardial fistula



Fig. 3: Covered stents in place

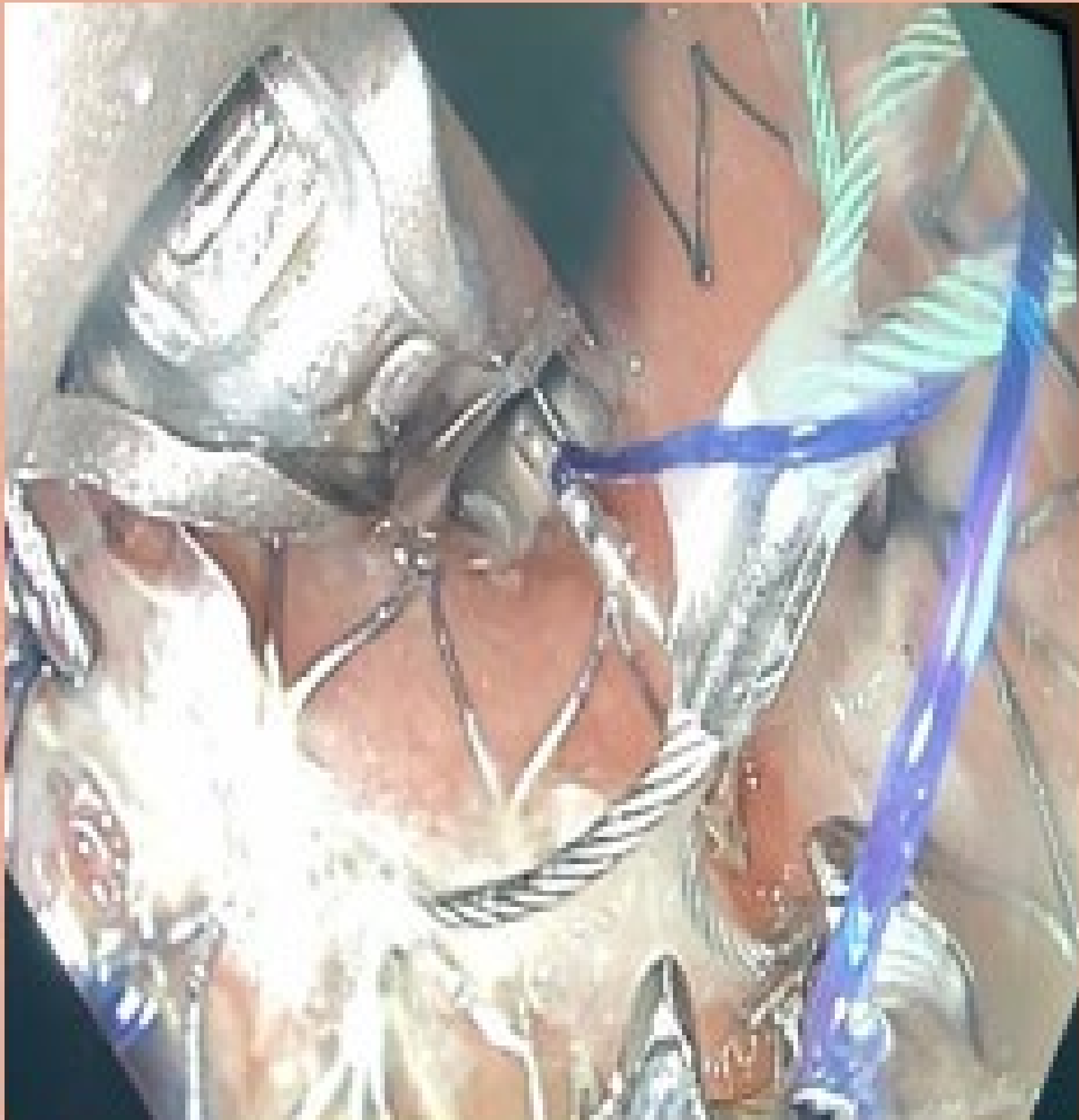


Fig. 4: Suture fixation of stents



Fig. 5: Contrast swallow study revealing exclusion of the pericardium

Discussion

- As previously mentioned, gastropericardial fistulas are a very rare condition, and thus no definitive consensus on management presently exists. A recent literature review by Hamid et al. discovered 95 reported cases of enteropericardial fistula along with their treatment modality. These ranged from observation to stenting to transposition of healthy tissue. In their review they noted considerable success in treatment of the condition with management by conduit tissue transposition.² Although the definitive plan for our patient was resection of the involved tissue with esophagojejunostomy, he presented significantly malnourished and deconditioned, and would likely not have been able to tolerate such a procedure. Thus, covered stents were placed with the intent of bridging the patient to definitive therapy. Though the incidental discovery of intrahepatic cholangiocarcinoma ultimately prompted the patient to elect hospice care, he was able to be discharged from the hospital in a markedly improved and stable clinical condition while tolerating a full liquid diet.

Conclusion

There exists no consensus on the optimal management of enteropericardial fistulas. Though definitive surgery was not performed on this patient, a discussion regarding the effectiveness of covered stents as a temporizing measure or bridge to definitive therapy is certainly warranted as it is safe and relatively easy to perform in the acute setting by many gastroenterologists or gastrointestinal surgeons.

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