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Contained Perforated Marginal Ulcer After OAGB: Successful Endoscopic-Guided Laparoscopic Repair

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Abstract

Marginal ulcers (MUs) following One-Anastomosis Gastric Bypass (OAGB) may present as contained perforations, complicating diagnosis and management. We report a 36-year-old woman with fibromyalgia and hypothyroidism who developed acute abdominal pain one year after OAGB. CT scan revealed peri-hepatic pneumoperitoneum without contrast leak, suggesting a sealed perforation. Endoscopy identified a perforated marginal ulcer at the gastrojejunal anastomosis, and laparoscopic evaluation confirmed bile-stained fluid and fibrinous slough. Endoscopic guidance enabled precise localization, and Graham's omentopexy was performed with lavage and drainage. The patient tolerated oral fluids by day one, soft diet by day two, and was discharged in stable condition. Three-month follow-up endoscopy confirmed complete mucosal healing. This case illustrates the effectiveness of a combined endoscopic-laparoscopic approach for contained MU perforations in resource-limited settings.

Keywords

Gastric bypass; Marginal ulcer; Endoscopy.

Introduction

One-Anastomosis Gastric Bypass (OAGB) is increasingly performed due to its technical simplicity and effective metabolic outcomes [1]. Despite these advantages, long-term complications remain clinically relevant, with marginal ulcers (MUs) being among the most significant. MUs occur at the gastrojejunal anastomosis with an incidence of 2–4%, influenced by factors such as acid exposure, ischemia, bile reflux, and mucosal vulnerability [2-4]. Risk factors including NSAID use, smoking, and inadequate acid suppression further predispose patients to ulcer formation [3,6].

Although most MUs present with nonspecific symptoms, perforation, particularly when contained, poses a diagnostic challenge, as CT findings may be subtle or absent due to inflammatory sealing. In resource-limited settings, this may delay timely intervention. This report highlights a contained MU perforation managed successfully using a combined endoscopic–laparoscopic approach, demonstrating the value of multimodal minimally invasive strategies for accurate localization and repair.

Case Presentation

A 36-year-old woman with fibromyalgia, hypothyroidism, and intermittent NSAID use presented with severe generalized abdominal pain. She had undergone laparoscopic OAGB in 2023, along with prior sleeve gastrectomy and thyroidectomy.

On examination, she was hemodynamically stable (BP 106/65 mmHg, HR 93 bpm, SpO_2 98%), with abdominal distension and guarding. Labs showed mild anemia (Hb 11.5 g/dL) and raised inflammatory markers.

Contrast-enhanced CT (Figure 1) revealed peri-hepatic pneumoperitoneum without leak, suggesting a contained perforation. She was kept nil per oral, started on IV fluids, analgesics, and antibiotics. Persistent pain and rising CRP (18.57 mg/L) prompted surgical intervention.

Figure 1: CT abdomen showing peri-hepatic pneumoperitoneum suggestive of sealed perforation.

Endoscopy (Figure 2) identified a sealed marginal ulcer on the anterior gastrojejunal anastomosis. Laparoscopy confirmed bile-stained fluid, fibrinous exudate, and omental adhesion. Endoscopic light

guidance facilitated accurate localization of the perforation.

Figure 2: Endoscopic visualization of the partially sealed marginal ulcer.

After mobilizing healthy omentum, Graham's omentopexy was performed using three interrupted vicryl sutures. Peritoneal lavage and pelvic drain placement followed. Oral fluids were resumed on postoperative day 1 and a soft diet by day 2. She was discharged in stable condition. At three-month follow-up, endoscopy demonstrated complete mucosal healing and intact anastomosis.

Day	Intervention	Outcome
0	Admission, labs & CT	Sealed perforation suspected
1	Endoscopy + laparoscopy	Graham's omentopexy + lavage
1	Oral fluids initiated	Tolerated well
2	Soft diet	Stable
90	Follow-up endoscopy	Complete healing

Table 1: Timeline of Clinical Course.

Discussion

Perforated marginal ulcers following OAGB, although uncommon, represent a clinically significant late complication due to the risk of sepsis and hemodynamic deterioration. Reported rates of MU perforation vary but remain low; however, the true incidence may be underestimated given the variability in postoperative monitoring [2,5]. Contained perforations, in particular, pose a diagnostic challenge as inflammatory sealing by the omentum or adjacent tissues may obscure radiologic signs, resulting in misleadingly benign CT scans. This diagnostic difficulty has been described in literature evaluating postoperative leaks and ulcer complications after gastric bypass procedures, underscoring the importance of correlating imaging with clinical progression [3,6].

In this case, persistent abdominal pain and rising inflammatory markers prompted timely operative

intervention despite equivocal CT findings. Intraoperative endoscopy served as a valuable adjunct by providing real-time visualization of the ulcer base and enabling precise identification of the sealed perforation. The utility of endoscopy for intraoperative localization has been emphasized in complex bariatric cases, where anatomical alterations and inflammatory adhesions may limit direct visualization during laparoscopy [3]. Combining both modalities allowed a focused repair, minimized operative trauma, and optimized surgical efficiency.

Risk factors for MU include NSAID exposure, ischemia at the anastomosis, bile reflux, and inadequate acid suppression therapy, all of which contribute to impaired mucosal integrity [3-6]. This patient's intermittent NSAID use likely exacerbated mucosal vulnerability, predisposing her to ulcer formation and subsequent perforation. The rapid postoperative recovery and confirmed mucosal healing at follow-up endoscopy demonstrate the effectiveness of early multimodal intervention.

This case reinforces that in suspected MU perforation especially in resource-limited environments clinical judgment, symptom trajectory, and inflammatory trends may be more reliable than imaging alone. A combined endoscopic–laparoscopic strategy provides a practical, reproducible, and minimally invasive solution for accurate localization and durable repair of contained gastrointestinal perforations.

Conclusion

A combined endoscopic-laparoscopic approach enables precise localization and repair of contained marginal ulcer perforations after OAGB, allowing safe and efficient management in resource-limited settings.

Ethical considerations

Written informed consent was obtained from the patient for the publication of this case report and images. All identifying information has been removed to ensure patient confidentiality.

Conflict of interest

The authors declare no conflicts of interest.

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