

Introduction

Laparoscopic sleeve gastrectomy (LSG) is a popular weight loss surgery. LSG staple line leak occurs in 1-5% of patients. We present a case of LSG leak successfully managed with Overstitch™ endoscopic suturing system (OESS) and esophageal stent (ES) placement.

Case Description

- A 54-year-old man with HTN, DM and morbid obesity presented to ED with diffuse abdominal pain, nausea, vomiting, and constipation.
- Patient had LSG performed 1 week ago.
- Vital signs showed BP 106/72mmHg, HR 125bpm.
- Lab showed WBC 19.04 k/μl, and Hb 13.6 g/dL.
- CT abdomen showed large intraabdominal fluid collections. An LSG staple line leak was suspected. An NG tube was placed for decompression, and antibiotics were begun.
- Urgent diagnostic laparoscopy revealed large amount of intraperitoneal serosanguinous fluid. Gastric leak was diagnosed. Multiple abdominal and pelvic drains were placed and total parenteral nutrition was started.
- A week later GI service was consulted due to concern of persistent leak. EGD showed a 20 mm perforation along LSG staple line located 3 cm below gastroesophageal junction (GEJ).
- OESS was used to close the defect followed by placement of a 23mmx15mm fully covered ES.
- Following the procedure, Upper GI series showed no leak. Naso-jejunal (NJ) feeding was then started and TPN was weaned off. Patient did well and was discharged home.
- ES was removed at a follow up EGD in five weeks.
- UGI in 1 week showed no leak. NJ feeding was discontinued, and oral feeding was begun. Patient has been doing well since on subsequent follow up in the clinic.

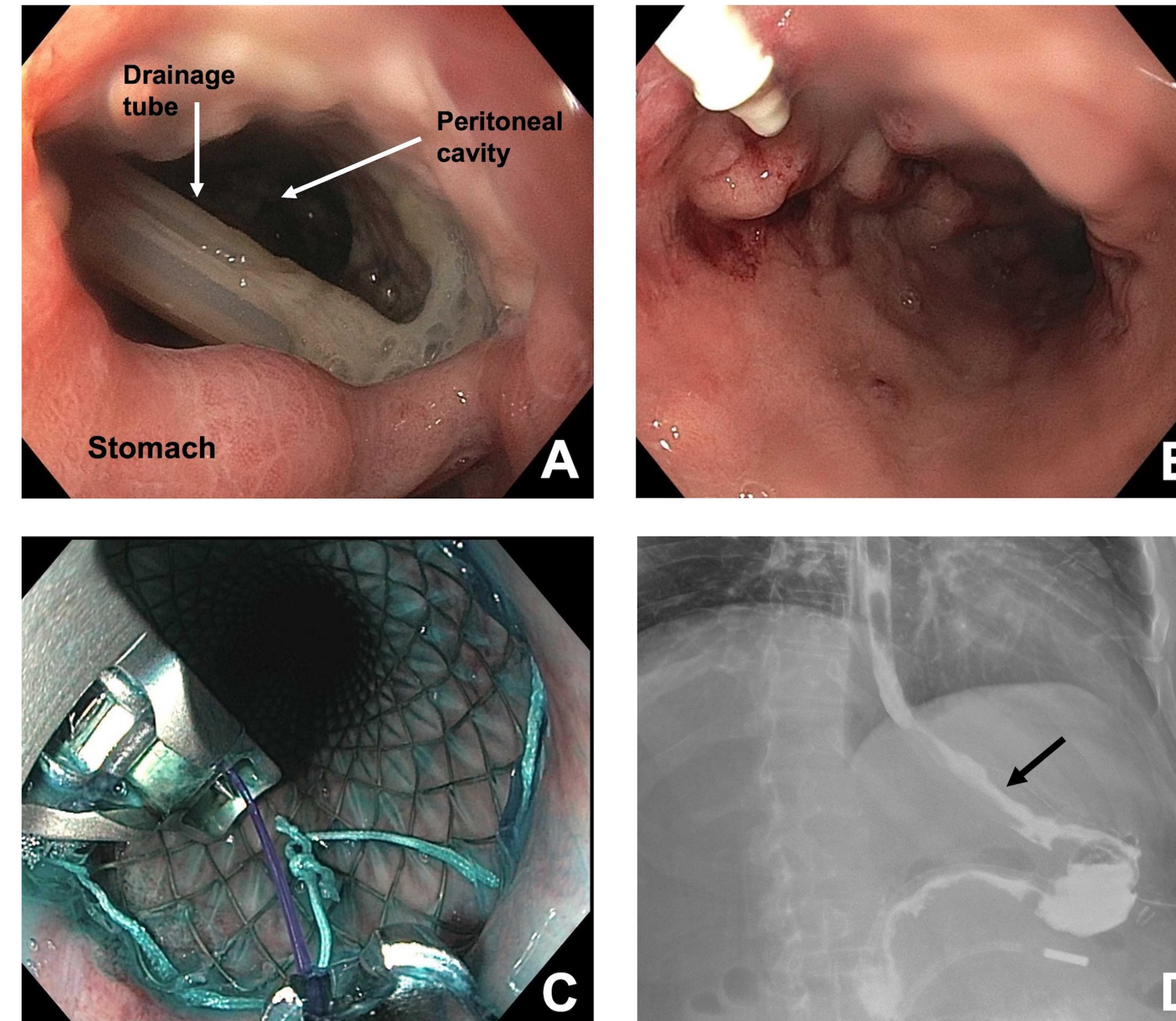


Figure 1 (A) Endoscopic view of large LSG staple line defect that is in open communication with peritoneal cavity with pus; a drainage tube was seen in situ. (B) Total closure of the LSG staple line defect with Overstitch™ endoscopic suturing system. (C) Stent fixation with Overstitch™ Endoscopic Suturing System. (D) UGI shows no contrast extravasation, and black arrow points at the location of the endoscopic suture placement.

Discussion

- LSG is a popular bariatric procedure due to its simplicity and efficacy. But LSG leak can be fatal if not managed appropriately.
- Prompt surgical measures are the key steps.
- In complicated cases as ours, multidisciplinary management brings a favorable outcome.
- Endoscopic closure of the LSG defect can be vital in source control when surgical measures fail. The success of endoscopic therapy depends on leak onset, with healing achieved in about 48.5% at one month to 73.6% at 6 months.
- In our case, OESS coupled with covered esophageal stent placement completely healed a large LSG defect.

Conclusion

LSG leak has high mortality rate if not treated promptly. Multidisciplinary management should be involved in complicated cases.

References:
 1. Iossa, A., et al., *Leaks after laparoscopic sleeve gastrectomy: overview of pathogenesis and risk factors*. Langenbecks Arch Surg, 2016. **401**(6): p. 757-66.
 2. Cereatti, F., et al., *Endoscopic management of gastrointestinal leaks and fistulae: What option do we have?* World J Gastroenterol, 2020. **26**(29): p. 4198-4217