

Large anastomotic leakage is always a surgical matter: A big leak repaired with a special stent

Valeria Clemente, Angelo Dezi, Maurizio Tarquini, Virginia Festa,
Marco Catarci, Marco Bianchi

ABSTRACT

Introduction: Intrathoracic esophagogastric anastomotic leakage is a life-threatening condition, with high postoperative mortality. In last decade, endoscopic treatment options, such as stent placement, have been tried to repair these leaks with good outcomes. The size of the leakages is an important factor to select patients that can benefit from stent placement. **Case Report:** We report a case of a very large anastomotic leak occurred after surgery for adenocarcinoma of the cardia, repaired with endoscopic insertion of an especially designed stent. **Conclusion:** Temporary stent placement is an effective and reliable method to repair post surgical esophagogastric anastomotic leaks. **Limits** such as stent migration and size of the leaks can be overcome by the choice of the proper stent.

Keywords: Anastomotic leak, Endoscopy, Esophagogastric anastomosis, Self-expandable metallic stents

How to cite this article

Clemente V, Dezi A, Tarquini M, Festa V, Catarci M, Bianchi M. Large anastomotic leakage is always a surgical matter: A big leak repaired with a special stent. J Case Rep Images Surg 2016;2:5–8.

Article ID: 100010Z12VC2016

doi:10.5348/Z12-2016-10-CR-2

INTRODUCTION

Minimally invasive endoscopic treatments, with temporary placement of self-expanding metal or plastic stents, have been recently reported for treating benign esophageal ruptures and leaks. The results seem particularly encouraging because these procedures are burdened with low complication and good success rates [1]. The size of the leakages is often considered an important factor to select patients that can benefit from stent placement, but in the majority of studies this is not clearly identified. We report a case of a very large anastomotic leak occurred after surgery for adenocarcinoma of the cardia, repaired with endoscopic insertion of a special stent.

CASE REPORT

A 50-year-old diabetic and obese man, subjected to transmediastinal subtotal esophagectomy and proximal gastrectomy for adenocarcinoma of the cardia (Type II, according to Siewert classification), showed a severe septic state two days after surgery, despite antibiotic therapy. A chest X-ray revealed right pleural effusion, and, shortly after, an intestinal transit with water-

Valeria Clemente¹, Angelo Dezi¹, Maurizio Tarquini¹, Virginia Festa¹, Marco Catarci², Marco Bianchi¹

Affiliations: ¹Gastroenterology and Hepatology San Filippo Neri Hospital, Rome, Italy; ²Oncologic Surgery San Filippo Neri Hospital, Rome, Italy.

Corresponding Author: Marco Bianchi, Gastroenterology and Hepatology San Filippo Neri Hospital, Via Martinotti, 20 -00135- Rome, Italy; Email: dr.marcobianchi@gmail.com

Received: 21 November 2015

Accepted: 29 December 2015

Published: 25 February 2016

soluble contrast medium (gastrografin) and a computed tomography (CT) scan documented the presence of a large collection of contrast medium at the esophagogastric anastomosis spreading in the right pleural cavity, with a fluid level (Figure 1). Under CT guide, catheter drainage of right pleura was inserted. A parenteral broad spectrum antibiotic (teicoplanin plus ciprofloxacin and metronidazole) and antifungal (fluconazole) therapy was started.

Esophagogastroduodenoscopy (EGD) showed a leak of more than 4 cm in diameter at the esophagogastric anastomosis, communicating with a large cavity within the pleural space (Figure 2). The gastric lumen was full of purulent material coming from the large fistula. Initially, a conservative approach was adopted and a nasojejunal tube was placed for enteral nutrition. However, the septic state did not resolve and the following CT scan with gastrografin showed the persistence of fistula. Therefore after two weeks, an esophageal self-expanding fully covered metal stent (Niti S Esophageal Covered Stent beta 2 Megastent-Taewong Medical-South Korea) with distal lumen 24 mm of diameter, proximal lumen 32 mm of diameter and of 18 cm in length, was endoscopically inserted (Figure 3). After two weeks, a control EGD showed stent migration few centimeters distally; so it was pulled up until 27 cm from upper dental arch. Forty days after stent placement, a CT scan with gastrografin swallow showed poor contrast passage in the pleural cavity. Seventy days after stent placement, EGD showed once again the stent migration distally under the anastomosis, but in this case without evidence of the fistula (Figure 4); the metal stent was then removed without complications. Radiologic examinations confirmed the healing of the fistula and the patient was discharged (Figure 5). He is still alive and in regular oncologic follow-up.

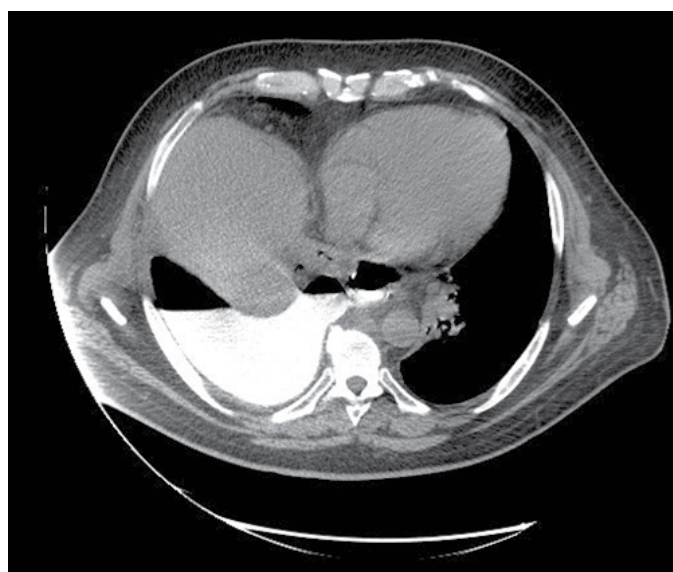


Figure 1: Computed tomography scan showing a large collection of oral water-soluble contrast medium (gastrografin) at the esophagogastric anastomosis spreading in the right pleural cavity.

DISCUSSION

Intrathoracic esophagogastric anastomotic leakage is a life-threatening condition, in which it is necessary to intervene immediately, because it can be burdened by a postoperative mortality of up to 80% [2]. In this situation, the proper and early drainage of the leak is mandatory, but in case of failure, surgical re-exploration, as well as simple conservative measures, still show high mortality rates [3–4]. In the last decade, minimally invasive endoscopic treatment options, such as stent placement, have been tried to repair these leaks. These treatments were first proposed for malignant stenosis. Recently, good outcomes with low morbidity and mortality (13%) have been reported for treating benign esophageal ruptures and leaks, with temporary placement of self-expanding

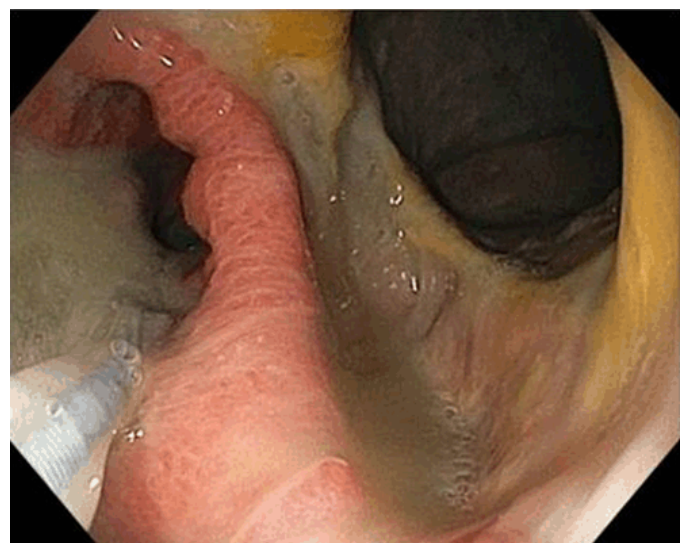


Figure 2: Endoscopic image showing, in the right side, a large anastomotic leak, communicating with pleural space. In the left side, gastric stump lumen (with a guidewire inside), is full of purulent material coming from pleural cavity.



Figure 3: (A) Endoscopic view during release of proximal end of stent placed to approximately 27 cm from the dental arch, (B) Radioscopic image just after stent placement. On the left side you see the drainage in the right pleural cavity.

metal or plastic stents. The results seem particularly encouraging, when concurrent adequate drainage of fluid collections in the mediastinum or pleural cavity is performed [1]. Insertion of a self-expanding stent is apparently a simple and fast procedure with high success rate (>85%), that provides immediate sealing of the dehiscence. Stent migration, especially after placement on a non-stenotic anastomosis, is the main complication for covered metal and plastic stents, and may account for insufficient closure of the leak. In this case, endoscopic and even surgical re-intervention to replace or remove the stent may be required. Otherwise tissue ingrowth

and fibrotic reaction within the uncovered metal stents meshes, may hinder the stent removal with high risk of perforation [5]. The size of the leakages is an important factor to select patients that can benefit from stent placement, in order to avoid migration and failure of fistula closure. Langer et al. set the cut-off for stent insertion to one-third of the anastomosis circumference [6] but this probably depended on the kind of stents they used. In our case report, leak extended over half of the esophageal lumen, so we decided to use a fully covered self-expanding metal stent developed from colonic stents, especially designed to treat leaks or fistulas after sleeve gastrectomy [7]. The treatment resulted successful, opening new perspectives for the use of such self-expandable metallic stents for large anastomotic leaks.

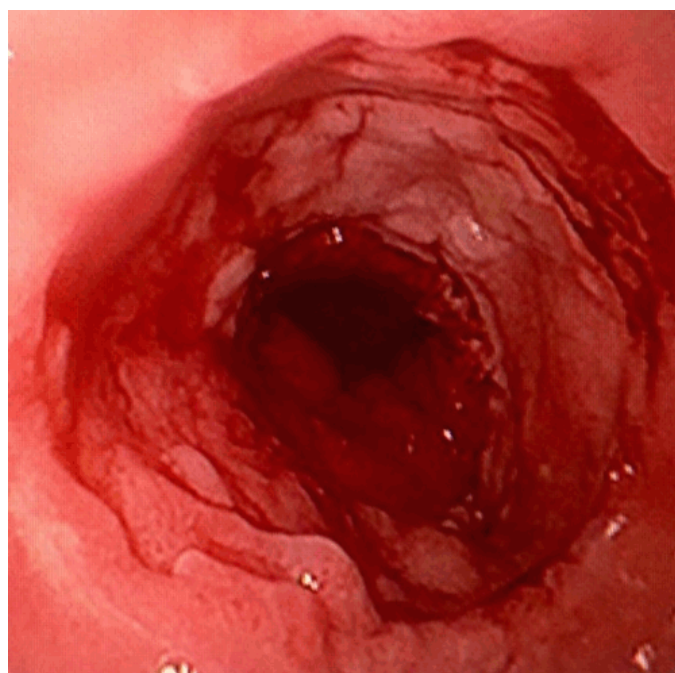


Figure 4: Endoscopic image of esophagogastric anastomosis after stent removal: The leak is completely closed.



Figure 5: Computed tomography scan confirming the healing of the fistula.

CONCLUSION

Temporary stent placement is an effective and reliable method to repair post surgical esophagogastric anastomotic leaks. Limits such as stent migration and size of the leaks can be overcome by the choice of the proper stent.

Author Contributions

Valeria Clemente – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Angelo Dezi – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Maurizio Tarquini – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Virginia Festa – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Marco Catarci – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Marco Bianchi – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2016 Valeria Clemente et al. This article is distributed

under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. van Boeckel PG, Sijbring A, Vleggaar FP, Siersema PD. Systematic review: temporary stent placement for benign rupture or anastomotic leak of the oesophagus. *Aliment Pharmacol Ther* 2011 Jun;33(12):1292–301.
2. Siewert JR, Stein HJ, Bartels H. Anastomotic leaks in the upper gastrointestinal tract. [Article in German]. *Chirurg* 2004 Nov;75(11):1063–70.
3. Alanezi K, Urschel JD. Mortality secondary to esophageal anastomotic leak. *Ann Thorac Cardiovasc Surg* 2004 Apr;10(2):71–5.
4. Urschel JD. Esophagogastrostomy anastomotic leaks complicating esophagectomy: a review. *Am J Surg* 1995 Jun;169(6):634–40.
5. Hirdes MM, Vleggaar FP, Van der Linde K, Willems M, Totté ER, Siersema PD. Esophageal perforation due to removal of partially covered self-expanding metal stents placed for a benign perforation or leak. *Endoscopy* 2011 Feb;43(2):156–9.
6. Langer FB, Wenzl E, Prager G, et al. Management of postoperative esophageal leaks with the Polyflex self-expanding covered plastic stent. *Ann Thorac Surg* 2005 Feb;79(2):398–403; discussion 404.
7. Bège T, Emungania O, Vitton V, et al. An endoscopic strategy for management of anastomotic complications from bariatric surgery: a prospective study. *Gastrointest Endosc* 2011 Feb;73(2):238–44.

Access full text article on
other devices



Access PDF of article on
other devices

