

# Surgical removal of a self-expanding metallic stent from jejunum in a patient with Roux-en-Y esophagojejunostomy

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## Abstract

Self-expanding metallic stent is useful in esophageal perforations, trachea-esophageal fistulas, benign esophageal strictures, and unresectable esophageal cancers. However, self-expanding metallic stent itself has the risk of mucosal necrosis with subsequent perforation and /or trachea-esophageal fistula development –particularly- in long-term usage. Further, gastro-esophageal reflux, stent occlusion, stent migration and intestinal obstruction are other common complications. We report surgical management of a case whose self-expanding metallic stent migrated from the esophagojejunostomy anastomosis towards to the jejunal Y-limp.

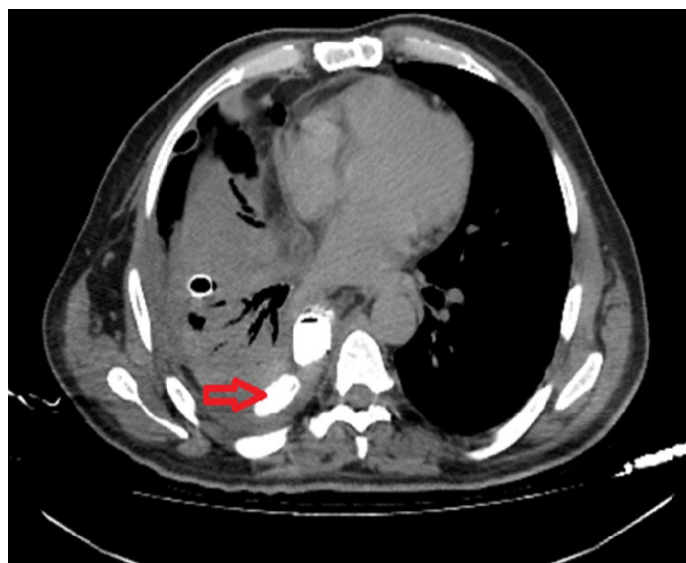
**Keywords:** Esophageal carcinoma; perforation; self-expanding metallic stent; stent migration

## INTRODUCTION

Leaks of esophagojejunostomy anastomosis are serious complications especially when the anastomosis is located intrathoracic. Endoscopic stent placement is crucial in treating these defects and its proven that morbidity and mortality is reduced with this intervention (1,2). Self-expanding metallic stent placement is also useful in the cases of esophageal perforations, trachea-esophageal fistulas, benign esophageal strictures due to caustic fluid ingestion, and for passage of unresectable esophageal cancers (3). On the other hand, covered expanding metallic stent itself has the risk of pressure on mucosa which can leads to mucosal necrosis with subsequent perforation and / or trachea-esophageal fistula development –particularly- in long-term usage. Further, gastro-esophageal reflux, stent occlusion, stent migration and intestinal obstruction are other common complications (4,5). We report a case whose stent migrated from the esophagojejunostomy anastomosis towards to the jejunal Y-limp.

## CASE REPORT

A 63-year-old male patient was admitted with complains of dysphagia and weight loss. His endoscopic exam revealed a mass at the lower esophago-gastric junction (Siewert Type-II). The histopathological diagnosis of



**Figure 1.** Leak of the esophago-jejunosomy anastomosis shown by computerized tomography

the biopsy taken from the mass was adenocarcinoma. It was decided to trans-thoracic Ivor-Lewis esophago-gastrectomy. Following the esophago-gastric resection, a Roux-en-Y esophago-jejunosomy was created for the gastrointestinal continuity. In the postoperative period, a leak occurred in the esophago-

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jejunostomy anastomosis on the fifth postoperative day (Figure 1). An expandable stent was inserted endoscopically. The stent was left in place for more than 2 months until the defect was closed. When it was decided to remove the stent via endoscopic route, we detected that the stent was not where it should be. An upper esophagogram showed that the stent moved to the anastomotic line of the Y limb and was found to be attached to the stump of the Y limb which did not allow the stent to past more distally (Figure 2).

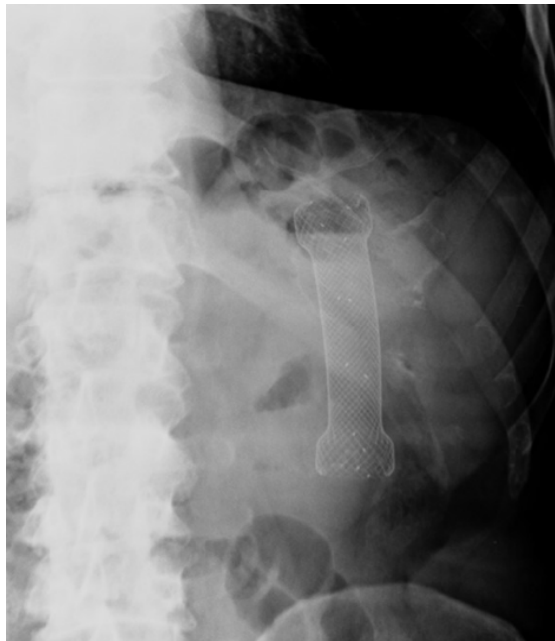


Figure 2. Esophagogram showing the stent migration

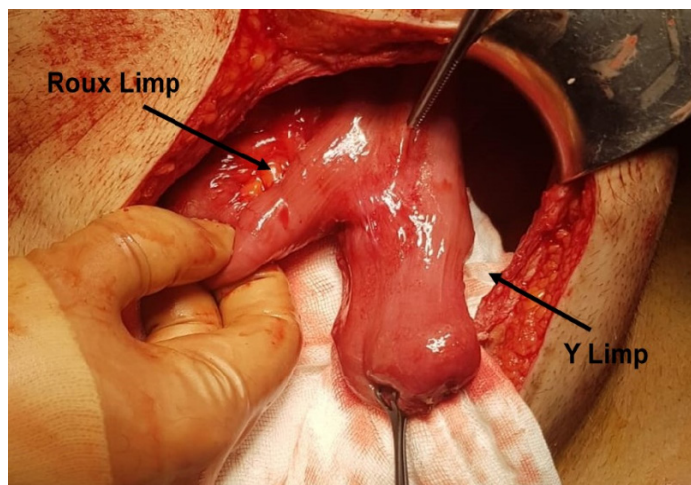


Figure 3. Attachment of the stent to the stump of the Y limb

Patient's vital signs and laboratory findings were in normal ranges. He had no signs or symptoms other than vague left upper quadrant pain. It was not considered appropriate to leave the stent in place due to the risk of possible complications such as stent migration, perforation or fistulation. We concluded to explorative laparotomy after two unsuccessful endoscopic

attempts for removing of the stent. During surgery, the tip of the stent was attached at the stump of the Y limb (Figure 3). The stump of the Y limb was opened and the stent was extracted (Figure 4). The stump was reclosed using linear stapler (Figure 5). Patient's postoperative course was uneventful. Oral consumption was started on the 3th postoperative day and he was discharged at the 6th postoperative day.



Figure 4. Extraction of the stent from the stump of Y Limb



Figure 5. Closure of the stump with linear stapler.

## DISCUSSION

Migration of the stent is a problematic complication which usually occurs when it's not enough expands and sufficiently covers the lumen. Shrinking of the tumor as a response to chemo-radiotherapy, stent malposition, and excessive dilatation of the structured segment before

stent placement are possible causes of stent migration (6,7). In the literature, few cases are reported with small bowel perforation due to stent migration (8-14). In the present case, the stent was probably passed to distal due to healing of inflammatory process and regression of the edema at the anastomotic line.

In the existence of stent migration, the first step should be the detection of stent localization by imaging methods such as abdominal X-ray and computerized tomography. Endoscopic stent removal is the treatment of choice. However, it's not always possible to remove the stent by endoscopic route and has sometimes the risk of mucosal tears and perforations (5,8). If endoscopy fails, surgical removal –whether laparoscopic or open- should be preferred to conservative management. Because, a waiting policy for the stent to pass from terminal ileum to the cecum is unlikely and stent related complications during this process such as perforation or fistula development is much more difficult to manage (15).

## CONCLUSION

In conclusion, stent migration is a rare but serious complication which should be meticulously handled. Endoscopic removal is the first choice of treatment. However, surgical removal should be preferred to conservative management if endoscopic attempts are unsuccessful.

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