Brief report

Endoscopic Double Metallic Stenting in Afferent and Efferent Loop for
Malignant Afferent Loop Obstruction with Billroth II Anatomy

Kazunari Nakahara1), Yoshinori Sato1), Keigo Suetani1), Ryo Morita1), Yosuke Michikawa1),
Shinjiro Kobayashi2), Fumio Itoh1)

1) Department of Gastroenterology and Hepatology, St. Marianna University, School of
Medicine, 2-16-1, Sugao, Miyamae-ku, Kawasaki, 216-8511, Japan

2) Department of Gastroenterological and General Surgery, St. Marianna University, School
of Medicine, 2-16-1, Sugao, Miyamae-ku, Kawasaki, 216-8511, Japan

Running title: Enteral stenting for BII reconstruction

Correspondence to: Kazunari Nakahara, PhD, Department of Gastroenterology and
Hepatology, St. Marianna University, School of Medicine, 2-16-1, Sugao, Miyamae-ku,
Kawasaki, 216-8511, Japan
Tel.: +81-44-977-8111, Fax.: +81-44-976-5805

E-mail address: nakahara@marianna-u.ac.jp
**Key words:** Enteral stent, Gastrointestinal obstruction, Afferent loop syndrome,

Self-expandable metallic stent, Duodenal stent
INTRODUCTION

Endoscopic self-expandable metallic stent (SEMS) placement is widely performed for malignant gastrointestinal obstructions as an effective palliative procedures. However, because only one report exist on SEMS placement at the bifurcation of the surgically reconstructed intestine, its safety and efficacy have not been elucidated. We present a case of double SEMSs placement at the bifurcation in Billroth-II gastrojejunostomy.

CASE REPORT

A 75-year-old man who had undergone distal gastrectomy with Billroth-II reconstruction was admitted to our institution because of obstructive jaundice due to pancreatic head cancer. We performed percutaneous transhepatic biliary drainage (PTBD), and then biliary metallic stent was placed percutaneously. Contrast medium injection to the afferent loop via the PTBD tube demonstrated an afferent loop stricture because of tumor invasion (Fig. 1). Therefore, we performed enteral metallic stenting using a rendezvous technique. A guidewire was passed through the stricture via the PTBD tube into the stomach. After an endoscope was inserted into the stomach, the guidewire was grasped and withdrawn through the channel, and an enteral stent (22 mm × 6 cm, Niti-S, Taewoong Medical) was placed in the stricture (Fig. 2A). However, the expanded stent compressed the efferent loop, causing
efferent loop obstruction. Contrast radiography showed that contrast medium flowed only into the afferent loop (Fig. 2B). Therefore, a guidewire was passed through the stented side and into the efferent loop. Then, an enteral stent (22 mm × 10 cm, Niti-S, TaeWoong Medical) was placed from the efferent loop to the stomach (Fig. 3A). After efferent loop stenting, substantial contrast medium flow into the efferent loop was observed (Fig. 3B). Oral feeds were initiated a day after stent placement, and the patient was subsequently discharged. He died of primary cancer progression 5 months after stent placement, but there were no stent problems.

DISCUSSION

In recent years, malignant gastrointestinal obstruction of the esophagus, stomach, duodenum, and colon has been widely treated with endoscopic SEMS placement as an effective palliative treatment. However, because there are few studies on the use of metallic stents in the obstruction of surgically reconstructed intestine, particularly stenting at the bifurcation of the surgically reconstructed intestine, its safety and efficacy have not been elucidated. To the best of our knowledge, only one report exist on SEMS placement at the bifurcation of the surgically reconstructed intestine. Kwong et al reported a case of concurrent afferent and efferent stents after pancreaticoduodenectomy. Although their case

4 Kwong et al
eventually required three efferent limb stents for recurrent malignant obstruction along with an afferent limb stent, there were no serious complications.

In present case, the expanded afferent stent compressed the efferent loop, causing efferent loop obstruction. Because expanded stent may cause intestinal obstruction, endoscopists should be careful while enteral stenting at the bifurcation of surgically reconstructed intestine. Especially, while afferent loop stenting, additional efferent loop stent should be considered for the passage of food into the efferent loop.

Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

REFERENCES


**FIGURE LEGENDS**

Fig. 1: Contrast medium injection to the afferent loop via the percutaneous transhepatic biliary drainage tube demonstrated an afferent loop stricture (arrow).

Fig. 2A: An enteral stent was placed in the afferent loop stricture. B: Contrast radiography showed that contrast medium flowed only into the afferent loop.

Fig. 3A: Additional enteral stent was placed extending from the efferent loop to the stomach. B: After efferent loop stenting, substantial contrast medium flow into the efferent loop was observed.