

# Successful Self-Expandable Metallic Stent Placement for a Case of Distal Rectal Stenosis due to Gastric Cancer Metastasis

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## Key Words

Rectal stent · Gastric cancer · Carcinomatosis

## Abstract

A 47-year-old woman was diagnosed as having advanced gastric cancer with malignant ascites. Despite chemotherapy, recurrent peritoneal dissemination was seen 1.5 years after operation. A computed tomography scan revealed rectal stenosis due to Schnitzler's metastasis. When the distance from the distal end of the obstruction to the anal verge is less than 5 cm, stent replacement has been said to be contraindicated due to the development of anal pain and foreign body sensation. Although the distance from the distal end of the obstruction to the anal verge was 4 cm in this case, a WallFlex™ colonic stent could be placed. She stayed home, and luminal patency remained until she died 270 days after stent insertion. This report demonstrates that rectal obstruction located less than 5 cm from the anal verge due to Schnitzler's metastasis could be treated by stenting without any symptomatic or technical complications.

## Introduction

Placement of a self-expandable metallic stent (SEMS) for malignant rectal obstruction within 5 cm of the anal verge is still controversial, and the evidence for its use is not solid because anal pain and foreign body sensation may develop after insertion [1, 2]. Surgical management is not preferred for rectal stenosis with peritoneal dissemination. SEMS

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placement is useful for palliation in patients presenting with advanced stage disease or with severe comorbid medical illnesses. A case with rectal stenosis due to peritoneal dissemination within 5 cm of the anal verge and with successful stent insertion is presented.

## Case Report

A 47-year-old woman consulted her family doctor with epigastric pain. On esophagogastroduodenoscopy, advanced gastric cancer was found. She was referred to our hospital and was diagnosed as having signet ring cell gastric adenocarcinoma (T3N0M1) with staging laparoscopy. Chemotherapy involving S-1 plus cisplatin was administered, and no cancer cells were detected in the ascitic fluid after 2 courses of chemotherapy. Therefore, she underwent total gastrectomy 96 days after the diagnosis, followed by 12 courses of S-1 as adjuvant chemotherapy.

An abdominal and pelvic computed tomography (CT) scan showed the reappearance of ascites 1.5 years after the operation, and peritoneal lavage cytology was positive for signet ring cells. She had a recurrence of peritoneal dissemination, and chemotherapy involving S-1 plus cisplatin was administered. After 3 courses, she complained of abdominal distention and constipation. An abdominal and pelvic CT scan showed dilation of the small bowel and large bowel to the rectum (fig. 1). A limited Gastrografin enema was performed under endoscopy. A circumferential stenosis with a length of 5 cm was seen at the rectum, and the distance from the distal end of the obstruction to the anal verge was 4 cm. No tumor was seen on the mucosa, and she was diagnosed as having rectal stenosis due to Schnitzler's metastasis.

After informed consent for the placement of a SEMS was obtained from the patient, the distal end of the lesion was approached with a flexible colonoscope. The guide wire was inserted through the channel of the endoscope and passed through the stenosis. A SEMS with a length of 6 cm and an inner diameter of 22 mm (WallFlex Colonic Stent, Microvasive, Boston Scientific Corporation, Watertown, Mass., USA) was inserted, and it was properly expanded with the aid of a guide wire and under direct visualization with an endoscope (fig. 2).

After the insertion, the distance from the distal end of the stent to the anal verge stayed at 2 cm, and the patient made good progress, with relief of the symptoms of obstruction. Furthermore, she did not have any procedure- or stent-related complications, including pain, foreign body sensation, bleeding, perforation, fecal incontinence and stent migration. After starting food intake, she was discharged from the hospital and underwent 7 courses of paclitaxel chemotherapy as an outpatient without evidence of bowel obstruction. Luminal patency was maintained without symptoms of obstruction, and no stent-related complications were seen until she died 270 days after stent insertion.

## Discussion

In this case, nonsurgical palliation of the rectal obstruction with Schnitzler's metastasis was attempted by inserting a SEMS. Insertion was successful, without any adverse events or related symptoms, resulting in immediate decompression of the colon and rectum and lasting relief of the symptoms of obstruction until the patient's death. She did not require a stoma throughout her life. Even if an acute colorectal obstruction requires quick relief, in patients who are at high risk or who cannot be cured by surgery, it is desirable to avoid a

palliative surgical operation such as colostomy, which also burdens the patient with an artificial anus.

Endoscopic SEMS placement is useful as a palliative treatment for inoperable cases of acute malignant colorectal obstruction [3]. The perioperative outcome and long-term survival of SEMS insertion and open surgery for palliation of colorectal cancer have been reported to be similar [4]. The ability to defecate naturally and the shorter hospital stay [5, 6] relieve the patient's physical and psychological burden, contributing to an improvement in quality of life [7]. SEMS is also more cost-effective than stoma creation for patients with inoperable malignant colonic obstructions [8].

Although a recent study reported that endoscopic stenting is not as effective for palliation of colorectal obstruction in patients with advanced gastric cancer as emergency operation, the difference between extracolonic malignancy and colorectal cancer might be due to colonic immobilization or multiple stenosis due to carcinomatosis [9]. In cases with Schnitzler's metastasis, extrinsic invasion into the rectum leads to obstruction of the lumen and often occurs at more than one location in cases of carcinomatosis. However, a high rate of clinical success of SEMS placement for extrinsic lesions was also reported [10]. In the present case, even though carcinomatosis was present, the obstruction was limited to the rectum. Therefore, when we carefully assess stenotic lesions and high-risk factors for complications in gastric cancer with carcinomatosis, SEMS is still the most preferred option to relieve the obstruction. It has been reported that the presence of fewer than two obstructive sites was a predictive factor for successful stenting [9]. On the other hand, in patients with multiple stenoses, colostomy, if possible, might be superior to treatment with SEMS placement because of the high probability of bowel occlusion at other locations.

SEMS for the esophagus has often been used even for colonic stenosis without government approval in Japan. The WallFlex colonic stent was introduced in 2012 and is the only approved colorectal stent in Japan. It can be placed under endoscopy. Although endoscopic SEMS placement carries an overall complication rate of up to 25% [2, 11], the stent was successfully positioned in this case and immediately relieved the symptoms of obstruction, with no complications. Lasting relief of the obstruction without a surgical operation allowed the patient to continue chemotherapy and stay at home.

Acute malignant rectal obstruction is a potentially life-threatening emergency and is caused by either primary colorectal or metastatic cancer. When rectal stenosis with Schnitzler's metastasis occurs, the length from the anal verge to the distal margin of the stenosis is usually less than 5 cm. In the US guidelines for rectal stenting [12], at least 5 cm from the anal verge should be free of disease; if not, tenesmus or a continuous urge to defecate might be induced. Placement of a SEMS is contraindicated for malignant rectal obstructions within 5 cm of the anal verge [1, 2] or 5 cm from the dentate line [13]. If we were to follow these guidelines, we would not be able to insert a stent in a case such as the present one. However, rectal stenting might be possible for patients with Schnitzler's metastasis if the stent location is assessed appropriately. The simple way of stent insertion for rectal stenosis should be considered as one of the alternatives to surgery.

Colorectal tubes might be another option for colorectal malignancy, because they might be safer against bleeding, and obstructive symptoms can be improved in many cases. However, they reduce patients' quality of life due to the tube from the anus, and the tube is thinner and can be easily obstructed, resulting in the need for regular washing. It also takes a longer time to relieve the obstruction.

Overall, 62.5% of patients with the rectal obstruction within 5 cm of the anal verge had pain after SEMS insertion [14]. The distal end of the stent was 1–3 cm. Sensory innervation to the anal canal is limited to approximately 3–15 mm above the dentate line, and the prox-

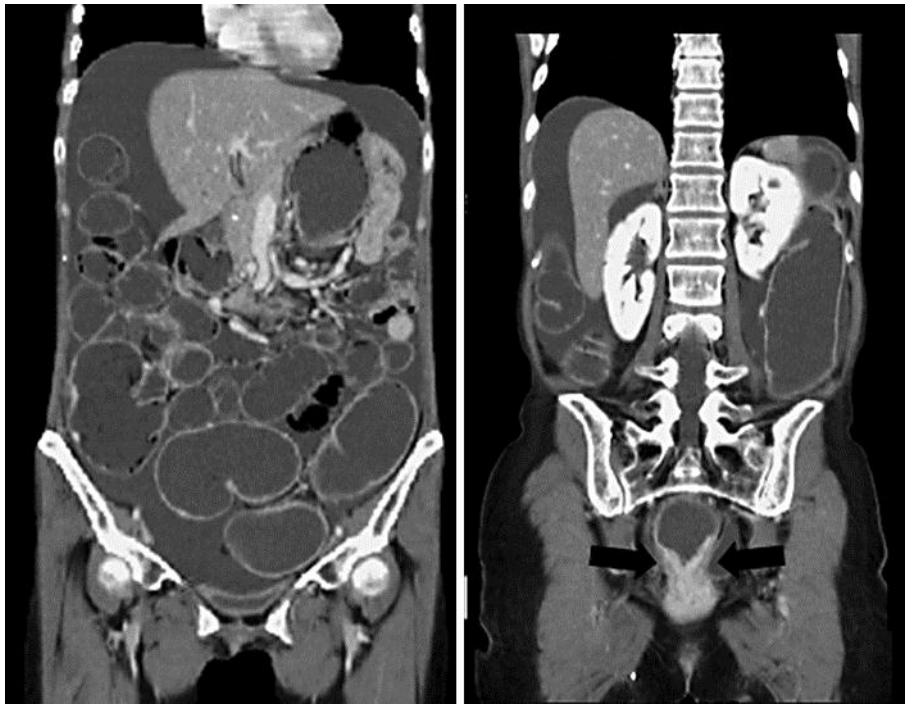
imal side of the rectum can only sense distention [15]. When we carefully consider these points, we can place the stent in the appropriate position through the scope and by checking X-ray images, and we can reduce the risk of symptomatic complications.

The type of stent may also affect the development of symptoms. However, further investigations are warranted to evaluate the differences.

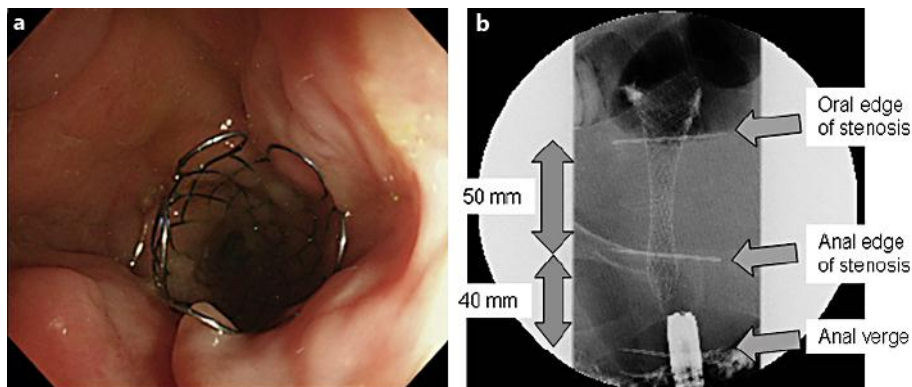
In summary, a colorectal stent can be inserted in the rectum with Schnitzler's metastasis even if the distance from the anal verge is shorter than 5 cm. This procedure improves patients' quality of life and the patients can receive active therapy, such as chemotherapy.

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**Fig. 1.** Coronal images of abdominal CT. Ileal and colonic dilation with fluid is seen. A medium amount of ascites is evident.



**Fig. 2.** **a** Endoscopic image of the rectum with stenosis and the inserted stent. The stent was inserted into the rectal stenosis from the anal side. The distal end of the expanded endoprosthesis is seen. **b** The stenosis is 5 cm long, and the WallFlex colonic stent (6 cm in length, 22 mm in diameter) was placed in the rectum. The anal side edge of the stent is 2 cm from the oral side of the anal verge.