Evolution® Colonic Stent as a Bridge to Surgery

Michael Hünerbein, MD
Professor of Medicine / Surgeon
Department of Surgery and Surgical Oncology
Helios-Hospital Berlin
Berlin, Germany

Indication for Procedure

The laparoscopic resection of colorectal carcinomas are, more and more, replacing open surgery. This minimally invasive method shows equal oncological results with less perioperative pain, a better cosmetic result and a shortened period of recovery.

A contraindication for the laparoscopic procedure is an ileus with dilated intestinal loops, because of an increased risk for perforation. Here, a preoperative stenting with colorectal metal stents offers the opportunity to relieve the ileus and to perform a minimal invasive resection later.

About the Author and Facility

For the past 17 years, Dr. Michael Hünerbein has performed all current endoscopic examinations and interventions, including gastroscopy, colonoscopy and ERCP. The Helios-Hospital Berlin has longstanding experience in stenting, including colorectal stents. The hospital is certified as a reference center for surgical endoscopy by the German Society of Surgery.

Device and Accessories

A standard colonoscope and a fluoroscope are used in this procedure. For the x-ray image, a water-soluble contrast is used. (*Figures 3a-3c*). The stenosis is probed using a guide wire with a hydrophilic tip. Over the guide wire, an uncovered Evolution Controlled-Release Colonic stent (available in lengths of 6, 10 or 12 cm) is pushed through the stenosis. The distal end of the stent is deployed and the positioning rectified, as the situation requires. When positioned correctly, the stent can be fully deployed.

Presentation and Diagnosis

In the rescue center, a 43-year-old patient presented with significant abdominal pain and vomiting. The pain persisted for two days with increasing intensity. There was no stool for the last four days. Clinically the patient showed a distended abdomen with meteorism and tenderness on palpation. Inflammation values were slightly raised (CRP 18 mg/l, Leucocytes 12 Gpt/l). A computer tomography confirmed the suspected diagnosis of a colonic ileus with dilated small and large bowel loops (*Figure 1*). The cause for the ileus was a stenosing sigmoid carcinoma. Theoretically, there was an indication for a laparotomy with resection of the tumor and creation of a stoma or creation of a stoma alone. As an alternative, we preferred a stent implantation and afterwards an elective laparoscopic resection with an anastomosis.

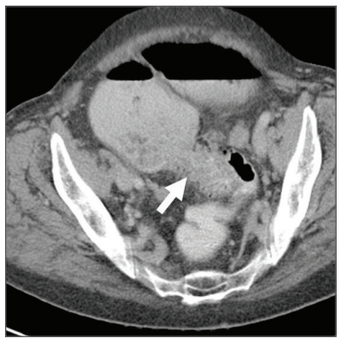

Figure 1

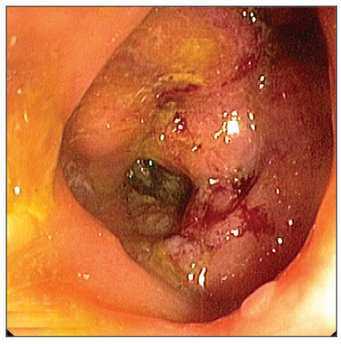

Figure 2a

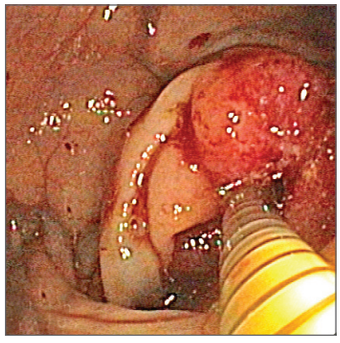

Figure 2b

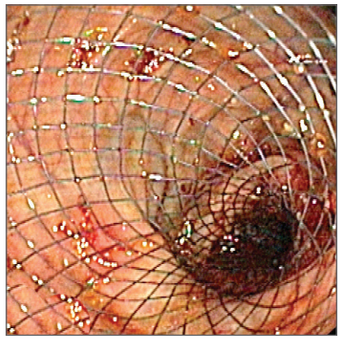

Figure 2c

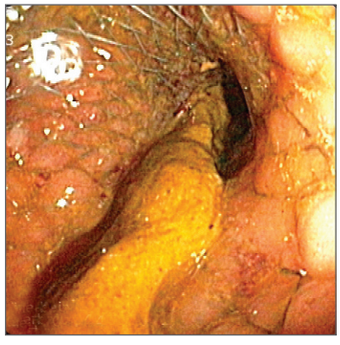

Figure 2d

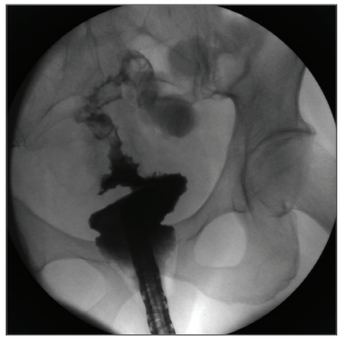

Figure 3a

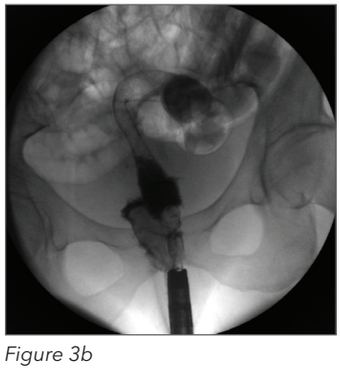

Figure 3b

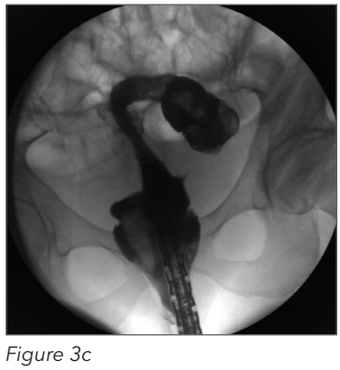

Figure 3c

Procedure

On admission day, the patient underwent a colonoscopy. The examination was performed with additional ECG, oxygen saturation and blood pressure monitoring. The patient was sedated by

Evolution Colonic Stent as a Bridge to Surgery, continued on page 9

Disoprivan (Propofol, 100 mg, fractioned). Twenty centimeters from the anus, a stenosing tumor was found, leaving only a filiform rest of the lumen. Under contrast, a 4 cm long high-grade stenosis showed (*Figures 2a-2c*). The stenosis was probed with a guide wire. Through the scope and over the wire guide, a 10 cm uncovered Evolution self-expanding metal stent was placed (25 / 30 mm in diameter), so it was proximally and distally a few centimeters longer than the stenosis (*Figure 3c*).

Outcome

Defecation happened immediately through the stent (*Figure 2d*) and the abdomen of the patient was relieved increasingly.

Three days after stent implantation, a laparoscopic sigma resection could be performed under routine circumstances. A continence-preserving resection without stoma creation could be achieved. Histologically, an adenocarcinoma with wall penetration (T3) was diagnosed. The lymph nodes were not infested, so chemotherapy was not necessary. The patient could leave hospital seven days after the laparoscopic resection.

Because of the stenting, the complication risk of an emergency laparotomy in the ileus could be decreased and a stoma could be avoided. ■