Computed tomography-guided endoscopic recanalization of a completely obstructed rectal anastomosis

A 44-year-old man presented with complete obstruction of a colorectal anastomosis. He had undergone laparoscopic resection of the sigmoid colon 9 months previously for colonic perforation caused by endoscopic resection of a Peutz–Jeghers polyp. Surgical resection and reconstruction of the anastomosis, including diverting ileostomy, had been performed 6 months later because of anastomotic stricture and leakage. Closure of the ileostomy had been planned for 3 months later but high-pressure fluoroscopy showed no passage of contrast medium through the anastomosis and endoscopy confirmed complete obstruction with the former lumen being unidentifiable (Fig. 1). The anastomosis could not be reached endoscopically through the ileostomy because of peritoneal adhesions.

A computed tomography (CT) scan was performed and the colon was filled with air through the ileostomy. A gastroscope was advanced through the rectum and placed close to the anastomosis. The CT scan showed a membrane at the tip of the endoscope that was completely separating the descending colon and the rectum (Fig. 2 a). An incision of the membrane was performed under CT guidance using a needle-knife (OE11018N3; Endo-Flex, Voerde, Germany), and a guidewire was advanced through the incision. The CT scan confirmed the intracolonic position of the wire (Fig. 2 b) and dilation using a wire-guided balloon (M00558680; Boston Scientific, Natick, Massachusetts, USA) was

Fig. 1 Endoscopic view of the colorectal anastomosis from the rectum showing complete obstruction.

Fig. 2 Computed tomography (CT) scan showing: a the endoscope in the rectum and the air-filled descending colon, which are separated by a membrane; b the correctly positioned guidewire that had been advanced into the descending colon after incision of the membrane.

Fig. 3 Endoscopic view during balloon dilation after incision of the membrane and positioning of the guidewire under computed tomography (CT) guidance.

Fig. 4 Endoscopic view of the anastomosis 4 weeks after the endoscopic recanalization procedure.
performed up to a diameter of 12 mm (Fig. 3). The ileostomy was closed surgically 4 weeks later. During the first four weeks after recanalization, endoscopic dilation was repeated weekly with 18-mm balloons, by the end of which the stenosis had resolved completely (Fig. 4). After 2 years, the patient remains free of symptoms.

Stricture of a colorectal anastomosis is a known complication and endoscopic dilation is the standard treatment. However, complete obstruction is rare and its treatment is not standardized. Case reports have described endoscopic approaches using different instruments, EUS-guided procedures, and rendezvous techniques [1–5]. In addition, CT guidance for endoscopic navigation should be considered to be helpful, especially when the anastomosis cannot be reached endoscopically from the proximal colon.

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Andreas Probst1, Stefan Gölder1, Egbert Knöpfle2, Lukas Axt3, Helmut Messmann1

1 Department of Gastroenterology, Klinikum Augsburg, Augsburg, Germany
2 Department of Radiology, Klinikum Augsburg, Augsburg, Germany
3 Department of General, Visceral and Transplantation Surgery, Klinikum Augsburg, Augsburg, Germany

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Corresponding author
Andreas Probst, MD
III. Medizinische Klinik
Klinikum Augsburg
Stenglinstrasse 2
86156 Augsburg
Germany
Fax: +49-821-4003331
andreas.probst@klinikum-augsburg.de

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