Extreme endoscopy: direct jejunostomy, re-anastomosis of bowel, percutaneous assisted transprosthetic endoscopic drainage in Roux-en-Y gastric bypass

A 52-year-old female with history of Roux-en-Y gastric bypass underwent resection of a huge cystic tumor of the pancreas. Postoperatively an amylase-rich retroperitoneal fluid collection was noted. The patient was referred for double-balloon endoscopic retrograde cholangiopancreatography (ERCP) for a suspected pancreatic duct leak. The patient had anemia, anasarca, and severe malnutrition (albumin level of 1.8 g/dl – normal range 3.5 to 4.6 g/dl; hemoglobin 9 g/dl – normal range 11.5 to 14.5). During endoscopy performed under general anesthesia, it became evident that the jejunal esophageal anastomosis was disrupted, communicating with a large pleuropertoneal abscess. At this time a change in plans became mandatory.

First, a direct, double-balloon enteroscopy (DPE) jejunostomy was performed to secure nutritional support (▶ Fig. 1, ▶ Video 1). Second, a Guardus overtube (STERIS Endoscopy, Mentor, Ohio, USA) was inserted per-orally into the abscess cavity and the therapeutic gastroscope was passed numerous times to remove copious amounts of pus and food using extraction devices. Third, the disrupted bowel was re-anastomosed endoscopically using a fully covered self-expanding metal stent (FCSEMS) (Cook Medical, Bloomington, Indiana, USA). In order to prevent stent migration, an over-the-scope clip was used to anchor the FCSEMS in the esophagus. And finally, percutaneous assisted transprosthetic endoscopic therapy with sponge insertion was used to drain the abscessed cavity (▶ Fig. 1, ▶ Video 1). Several sponge exchanges were performed through the stent to finally collapse the cavity. The
stent used to perform the percutaneous assisted transprosthetic endoscopic therapy was removed after 4 weeks. At 2 months the esophagojejunal re-anastomosis FCSEMS was removed and the small remnant entero-pleural fistula was closed using an over-the-scope clip (12/6t, Ovesco, USA).

This case is an example of extreme endoscopy, where multiple endoscopes (enterooscope, therapeutic gastroscope, slim gastroscope), instruments, skills and techniques such as DPE jejunostomy [1], anchoring of FCSEMS [2], and percutaneous assisted transprosthetic endoscopic therapy [3] became mandatory to solve various complex post-operative adverse events in a poor surgical candidate, leading to complete resolution of the all life-threatening complications, including disrupted esophagojejunostomy, pleuro-peritoneal abscess, abdominal sepsis, malnutrition and esophagopleural fistula.

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Competing interests
Klaus Mönkemüller has received honoraria from Cook Medical, USA and Ovesco, Tübingen, Germany, for giving academic lectures.

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