Resolution of a large infradiaphragmatic leak with endoscopic vacuum therapy after total gastrectomy

Anastomotic insufficiency with leakage is a life-threatening complication after radical gastrectomy. Surgical reintervention may be associated with high rates of recurrence and increased morbidity [1]. Placement of a fully covered self-expandable metal stent is commonly performed as a first line conservative treatment. However, success rates after endoscopic stenting range between 63% and 91% [2]. Endoscopic vacuum therapy is a novel technique that allows continuous drainage of the leak, control of infection, and secondary wound healing process, and has shown high clinical success rates [3–5].

A 35-year-old man who underwent total gastrectomy and termino-lateral esophagojejunal anastomosis for gastric cancer at an outside hospital presented with an anastomotic leakage 5 days after surgery. Re-operation was unsuccessful. On postoperative Day 10, the patient was referred to our center with septic shock. The computed tomography (CT) scan confirmed the persistence of an anastomotic leak (▶ Fig. 1). An upper endoscopy showed a wall defect at the level of the anastomosis, which affected 30% of the circumference and gave access to a 10 cm (depth) × 5 cm (diameter) cavity with necrotic debris. An Eso-SPONGE (B. Braun, Melsungen, Germany) was placed with endoscopic guidance inside the cavity and connected to a vacuum with a negative pressure of 100 mmHg (▶ Video 1). The sponge was replaced 2–3 times per week (▶ Fig. 2). The septic shock quickly resolved with antibiotic therapy, and after 36 days of endoscopic treatment and 12 sponge replacements, the remaining wound cavity was <2 cm (depth) × 1 cm (diameter) and the endoscopic therapy was discontinued. An upper endoscopy 10 days later (▶ Fig. 3), and a CT scan and a barium swallow confirmed absence of leakage (▶ Fig. 4, ▶ Fig. 5). The patient was discharged 2 days later with good tolerance to an oral diet, and continued to do well at 3 months’ follow-up.

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Competing interests

Drs. Sendino, Momblan, and de Lacy are speakers for B. Braun Company.
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Fig. 3 Upper endoscopy (10 days after the end of vacuum therapy). a The wall defect on the level of the anastomosis measured only 7 mm and was not accessible by a conventional gastroscope. b A pediatric gastroscope was used to access the cavity, which was only 2 cm long and had completely healed.

Fig. 4 Computed tomography scan (10 days after the end of vacuum therapy). There was no evidence of contrast leakage and the cavity was completely resolved (*).

Fig. 5 The barium swallow was performed 10 days after the end of therapy and there was no evidence of a leak.