

Endoscopic intracavitary vacuum therapy of Boerhaave's syndrome: a case report

Boerhaave's syndrome is a difficult therapeutic challenge. The transmural laceration of the distal esophagus leads to mediastinal inflammation due to translocation of digestive juices into the open mediastinum. The vacuum-assisted closure therapy is well established in the treatment of chronic surface wounds [1]. The successful adaptation of this technique for intracorporeal wounds has been recently demonstrated for anastomotic leakage after anterior resection of the rectum [2]. We modified this technique in order to successfully treat a case of esophageal anastomotic leakage [3]. We describe here the effectiveness of the procedure in the treatment of Boerhaave's syndrome.

A 78-year-old man presented to the emergency department after collapsing with symptoms that included exsiccosis and fever. Clinical diagnostic procedures included gastroscopy, which revealed a 2-cm esophageal tear just above the Z-line; apart from this the gastroesophageal mucosa was normal and, in particular, there were no signs of ischemia. The defect opened into an abscess cavity of 5 cm in diameter (● Fig. 1).

Under endotracheal anesthesia, a stomach tube (Ventrol Levin size 14, Mallinckrodt, Argyle, New York, USA) was inserted through the nose, the distal tip was led out orally, shortened, inserted in a polyurethane foam sponge (Endo-SPONGE®, B-Braun Medical, BV, Melsungen, Germany), and secured by suture. The sponge was size-adjusted to 1 × 1 × 2.5 cm and grasped with a tripod-equipped endoscope and hence introduced into the abscess cavity under direct vision. After placement of the sponge, a vacuum device (V.A.C. ATS®, KCI USA Inc., San Antonio, Texas, USA) was connected and set to continuous 125 mm Hg sub-atmospheric, high-intensity pressure, resulting in the intracavitary fixation of the sponge and closure of the laceration. After 4 days the suction was discontinued, the drain with attached sponge, gently extracted and replaced as described.

Oral nutrition followed the extubation on day 1 of treatment. The vacuum sponge system was changed once on day 4. By then the aspect of the abscess cavity had changed completely. Parietal necrosis ad-



Fig. 1 Boerhaave's syndrome as seen at initial endoscopy.

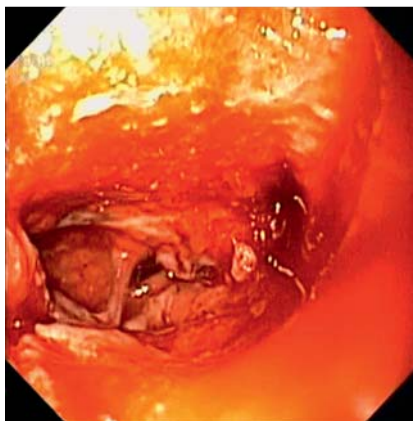


Fig. 2 The mediastinal cavity on day 4, first change of vacuum drainage system.



Fig. 3 The mediastinal cavity on day 8, at the end of therapy.



Fig. 4 Follow-up endoscopy at 10 days post-therapy.

herent to the sponge was removed with it. Now reduced in size, the cavity was clean and showed developing granulation (● Fig. 2).

A radiological check by computed tomography showed regression of an initial subcutaneous emphysema and no sign of a new abscess formation.

On day 8 of therapy the cavity had further reduced to the diameter of the sponge and contained developed granulation tissue; the endocavitary vacuum therapy was then stopped (● Fig. 3).

At endoscopic follow-up 3 days post-therapy a small diverticulum showed at the place of the laceration; after 10 days a small scar without any stenosis was the only remnant (● Fig. 4).

The patient had no difficulty swallowing. The endocavitary vacuum therapy represents a new, promising, minimally invasive method in the treatment of esophageal defects. It provides sufficient drainage and occlusion while maintaining regular visual control of the intracorporeal wound.

Competing interests: Dr Loske and Professor Müller have received honoraria from BBD Aesculap for organizing and delivering a workshop dealing with vacuum therapy of anastomotic dehiscence following resections in the upper and lower gastrointestinal tract. T. Schorsch declares no conflict of interest.

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References

- 1 *Argenta LC, Morykwas MJ.* Vacuum-assisted closure: a new method for wound control and treatment: clinical experience. *Ann Plast Surg* 1997; 38: 563–576
- 2 *Weidenhagen R, Gruetzner KU, Wiecken T et al.* Endoscopic vacuum-assisted closure of anastomotic leakage following anterior resection of the rectum: a new method. *Surg Endosc* 2008; 22: 1818–1825
- 3 *Loske G, Müller C.* [Vacuum therapy of an esophageal anastomotic leakage – a case report]. *Zentralbl Chir* 2009; 134: 267–270

Bibliography

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