

A simple way to deliver vacuum therapy: the tube-in-tube endoluminal vacuum therapy modification

A patient underwent endoscopic submucosal dissection of the middle esophagus to treat a superficial squamous cell carcinoma (T1a). He was admitted to the emergency room 2 weeks later with signs of sepsis. Computed tomography (CT) scan showed a mediastinal abscess, and an endoscopic evaluation revealed esophageal perforation at the resection site communicating with the mediastinal abscess. We decided to manage this situation with vacuum therapy [1–3]. However, a small esophageal perforation orifice and a much larger mediastinal abscess raised the question of how to position the sponge into the mediastinum. Inspired by the experience of pediatric surgeons, we assembled an aspiration device using a 12-Fr Levin tube within a 20-Fr Levin tube. The vacuum pump was attached to the inner tube, and the outer tube functioned to prevent aspiration biopsies or clogging. No sponge was used, and the aspiration device was easily positioned inside the mediastinal abscess by sliding it over a guidewire (► **Video 1**).

As the patient's clinical status improved, the conservative approach was maintained, and three other endoscopic examinations were performed, showing progressive cavity size reduction associated with granulation tissue formation. The fourth endoscopy showed complete cavity closure. Balloon dilation was needed to treat the resulting esophageal stricture.

We hypothesized that this technical modification to deliver negative pressure with a tube inside another tube may render endoluminal vacuum therapy easier, potentially reducing the number of sessions because there is no need to replace sponges. Further studies are needed.

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► **Video 1** Endoluminal vacuum therapy using a tube-in-tube approach to treat mediastinal abscess and esophageal perforation 2 weeks after endoscopic submucosal dissection to treat superficial squamous cell carcinoma.

Competing interests

The authors declare that they have no conflict of interest.

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