

Novel placement of an esophageal wound vacuum for a persistent anastomotic leak



► **Fig. 1** Esophagram before the wound vacuum therapy showing an esophageal leak.



► **Fig. 2** Photograph of the completed wound vacuum device prior to placement.

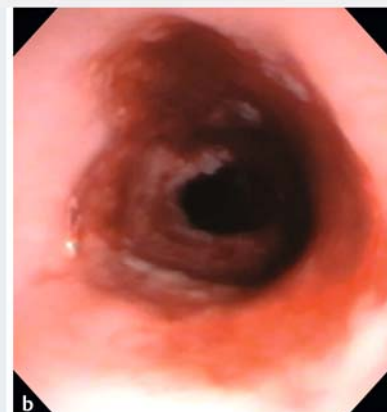
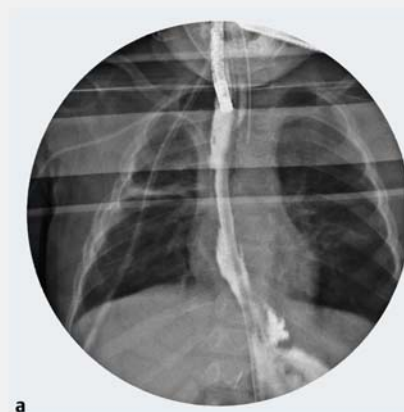


► **Fig. 3** Photograph following placement of the wound vacuum device showing the gastrostomy site suture placed for tube stabilization.

Esophageal vacuum-assisted closure is a relatively new technique that has been offered as an alternative to stenting. A recent study by Manfredi et al. demon-



► **Video 1** Novel placement of an esophageal wound vacuum for persistent anastomotic leak.



► **Fig. 4** Appearances after the wound vacuum therapy on: **a** esophagram; **b** endoscopic inspection.

strated the efficacy of this therapy in pediatric patients [1]. We present our experience using this therapy to resolve a persistent esophageal perforation. A 20-month-old girl with a past medical history of tracheoesophageal fistula and esophageal atresia was noted to have a persistent leak after revision of the anastomosis (► **Fig. 1**). A capture loop was created on a 14-Fr sump tube using a

non-absorbable suture. Given the patient had a gastrostomy tube in place, a retrograde approach was used. The sump tube was inserted into the gastrostomy, captured with a forceps, and pulled into the esophagus. Assembly of the device occurred on the patient's chest (► **Fig. 2**). The sponge was then positioned by pulling on the tubing at the gastrostomy. The wound vacuum

was activated after connection of the tubing, using settings of 125 mmHg at continuous moderate intensity [1]. A single suture was placed at the gastrotomy site to secure the tubing (► Fig. 3; ► Video 1).

In the postoperative period, the patient was noted to have signs of intolerance of secretions. Her symptoms improved with a change of the wound vacuum settings to intermittent (5 minutes on, 2 minutes off). Re-evaluation occurred after a 5-day period. A cold snare was used to capture the device after the capture loop was not visualized. A repeat esophagram demonstrated resolution of the leak (► Fig. 4). The patient recovered without complications and was discharged on post-op day 3.

Previous studies have demonstrated the efficacy of esophageal wound vacuums for the healing of perforations in both adults and children [1–4]. Initial results have shown superiority to stenting with regards to the length of therapy [1]. Our case again demonstrates the efficacy of the technique, but further prospective studies will be needed to reinforce these findings.

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Competing interests

The authors declare that they have no conflict of interest.

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