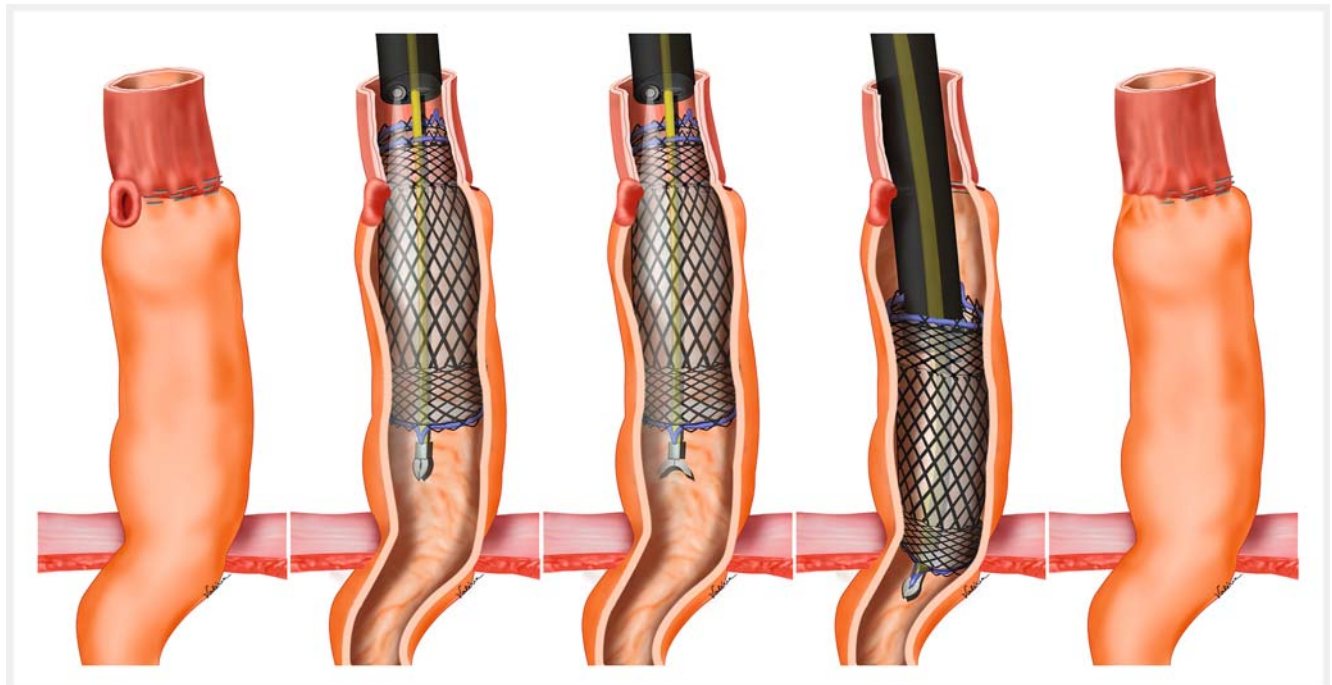


Assessment of healing of esophageal fistulae following stent placement without complete stent removal



► **Fig. 1** Repositioning of a fully covered, self-expandable, metal esophageal stent to assess fistula closure. From left to right: anastomotic fistula; stent in place; biopsy forceps seizing the string; dislodging the stent; the healed fistula. Source: Valéria Simões Lira

Anastomotic leaks and fistulae are among the major life-threatening post-esophagectomy complications, with incidence rates ranging from 3% to 10%, increasing post-surgical mortality to about 20% [1]. The successful closure of post-surgical fistulae may be achieved by the use of fully covered, self-expandable, metal esophageal stents (SEMSs) [2]. When SEMSs are selected for treatment, stents need to be removed after 4–6 weeks. Endoscopy and contrast radiography examination may help to evaluate whether a fistula has been effectively closed [3]. If closure has not occurred, another stent should be placed at the site, followed by reassessment after another 3–4 weeks. Whereas multiple stenting may be needed for the management of persistent fistulae, this significantly impacts the final treatment costs. Fully covered SEMSs (Hanarostent; M.I. Tech, Seoul, South Korea) have been our preferred choice



► **Video 1** Assessment of healing of esophageal fistula following stent placement without complete stent removal.

for fistula management and, in order to minimize stent migration, Shim's technique (external fixation) is performed to keep the stent properly positioned.

To evaluate the success in fistula closure, we opted not to remove the stent, but rather just to move it down, away from the fistula site. Such technique involves seizing the string at the distal flange of the stent with a biopsy forceps, and then repositioning the stent further down, towards the gastric antrum, dislodging the stent from the fistulous orifice (► **Fig. 1**, ► **Video 1**).

This approach allows the fistula to be reassessed by endoscopic visualization and contrast radiography examination. If the fistula is not completely healed, the same stent may be easily repositioned, and another evaluation is performed within 2–4 weeks. As the stent is fully covered, this maneuver is easily handled with no complications. The stent is removed when a complete resolution of the fistula has been confirmed.

This technique of stent mobilization was successfully performed in five patients and it allows cost reduction, as no SEMS replacements are required per patient.

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Competing interests

None

The authors

Claudia Zitron, Adriane G. Pelosof, Eloy Taglieri, Gabriel R. Corbetta, Otavio Micelli Neto, Alvaro M. Seraphim

A.C. Camargo Cancer Center, Endoscopy, Sao Paulo, Sao Paulo, Brazil

Corresponding author

Claudia Zitron, MD

Rua Angelina Maffei Vita 392 # 101,

Cep 01455-070, São Paulo, Brazil

Fax: +55-11-983156861

zitronc@gmail.com

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