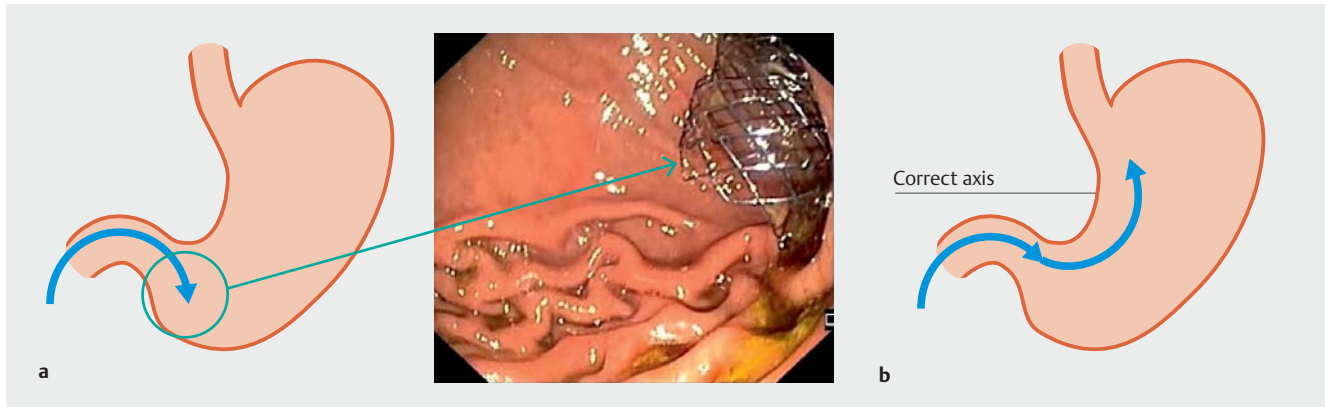


How to modify the axis of a self-expandable metal stent to avoid malfunction in gastric outlet obstruction: a simple trick



► **Fig. 1** Axis of a self-expandable metal stent after its deployment. **a** Before modification. **b** After modification by a standard clip.

Malignant gastric outlet obstruction (GOO) is caused mainly by gastric or pancreaticobiliary neoplasms. GOO presents with uncomfortable symptoms, such as nausea, vomiting, and abdominal distension, leading to malnutrition and impaired quality of life [1,2]. Endoscopic placement of a self-expandable metal stent (SEMS) is widely accepted as non-surgical palliative treatment of non-resectable malignant GOO [3]. However, the efficacy of the SEMS can be compromised, especially in patients affected by gastric antral neoplasia, in which GOO relief is not completely obtained. One of the reasons why gastric SEMS can be ineffective is possibly due to the impact of the proximal end of the stent at the great curvature of the gastric body (► **Fig. 1 a**). Four patients who were unfit for surgery underwent SEMS placement for malignant GOO (three women: 25, 52, and 56 years old; and one 57-year-old man). With a standard clip we caught the proximal end of the stent, closing the clip inside the mesh of the body of the SEMS (► **Video 1**). This trick modifies the proximal axis of the stent (► **Fig. 1 b**), restoring the normal anatomy of the stomach (► **Fig. 2**).



► **Video 1** Modification of the axis of a self-expandable metal stent to avoid malfunction in gastric outlet obstruction.

This treatment aims to avoid malfunction of the SEMS by using the clip to modify the axis of the stent and restore the normal anatomy of the stomach.

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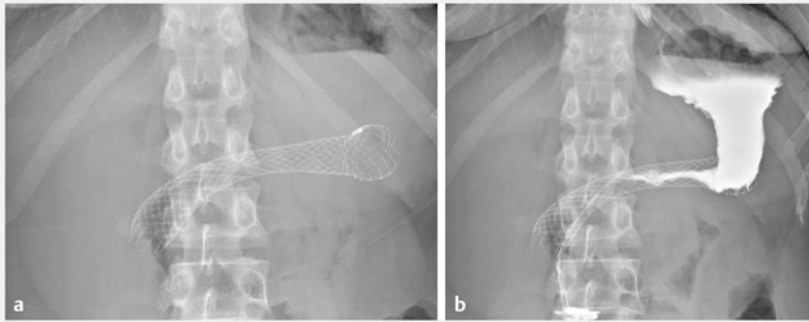
Competing interests

The authors declare that they have no conflict of interest.

The authors

Benedetto Mangiavillano^{1,2}, **Francesco Auriemma**¹, **Mario Bianchetti**¹, **Alessandro Repici**^{2,3}

- 1 Gastrointestinal Endoscopy Unit, Humanitas Mater Domini, Castellanza, Italy
- 2 Humanitas University, Milan, Italy
- 3 Digestive Endoscopy Unit, Istituto Clinico Humanitas Research Hospital, Milan, Italy



► **Fig. 2** X-ray images. **a** Proximal part of the self-expandable metal stent (SEMS) with the modified axis. **b** Correct progression of the contrast medium after SEMS modification.

Corresponding author

Benedetto Mangiavillano, MD
 Gastrointestinal Endoscopy Unit, Humanitas
 – Mater Domini, Via Gerenzano n.2,
 21053 Castellanza (VA), Italy
 Fax: +39-0331-476210
 bennymangiavillano@gmail.com

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DOI <https://doi.org/10.1055/a-1015-6423>
 Published online: 8.10.2019
 Endoscopy 2019; 51: 232–233
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

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