A 66-year-old man was referred to our endoscopy unit for endoscopic submucosal dissection (ESD) of a superficial circumferential adenocarcinoma developing over by severe Barrett’s esophagus. After marking the distal and proximal margins (▶Fig. 1), we proceeded to make proximal and distal circumferential incisions using a T-type HybridKnife (Erbe Medical, Tübingen, Germany) following an injection of glycerol solution (▶Fig. 2a). Next, we created two tunnels facing each other (▶Fig. 2b. ▶Video 1). Then, the scope was withdrawn and a Resolution clip (Boston Scientific, Marlborough, Massachusetts, USA) was inserted into the operative channel and attached to a 250 cm length of nonabsorbable suture wire (Péters Surgical, Bobigny, France) that had been wound into a U-shape. The scope was reinserted with the wire in parallel. The clip grasped the edges of the first two tunnels (▶Fig. 2c). The third tunnel was easily created as exposure of the submucosal layer was very clear due to constant traction using plastic 11g Kocher forceps (nessicare dressing kit; LCH Medical Products, Paris, France) grasping the external side of the wire (▶Fig. 2d). Tunneling was made from the first tunnel anterior bank to the second tunnel anterior bank with con-
stant perfect exposure of the submucosal layer due to the traction. Keeping the countertraction constant, a fourth tunnel was created at the posterior face to join the dorsal banks of the first two tunnels. A 12 cm circumferential en bloc resection specimen was extracted in 170 minutes (▶Fig. 3).

The thinness of the esophageal wall and the narrow diameter make scope manipulation difficult and increase the risk for perforations; as such, esophageal ESD is a technically challenging and high risk procedure. Superficial esophageal cancers (circumferential or almost circumferential) require 360-degree resection to obtain an en bloc specimen with clear margins. Good exposure of the submucosal layer is key to performing dissections safely and quickly. Moreover, damage to the muscle layer may be caused by post-ESD esophageal stenosis [1]. The two-tunnel strategy has been reported for circumferential esophageal ESD. However, without the addition of traction, the procedure, particularly the final step, can be very technically challenging and risky. This may be due to the rotation of the specimen, which considerably reduces the visible working area, and its inversion into the stomach lumen. Tunnel dissection facilitates esophageal ESD because it allows for perfect exposure of the submucosal layer [2]. The addition of clip traction at the end of the two tunnels allows for circumferential ESD to be performed with four consecutive tunnels.

We previously described our tunnel + clip method, which combines clip-with-line and tunneling, as a method that could facilitate the esophageal ESD strategy [3]. This method facilitates dissection by allowing soft strain until the last fibers of the submucosa, and particularly the edges of the tunnel, are dissected. We adapted this method for circumferential esophageal ESD. We have performed this strategy in 10 patients to date, without any perforation and with fast dissection speed (30 mm²/min). With the help of clip traction, the four-tunnel strategy could become the standard strategy for circumferential esophageal ESD.

Endoscopy_UCTN_Code_TTT_1AO_2AG

Competing interests
None

The authors
Marion Schaefer1, Jérémie Albouys2, Aurélie Charissoux2, Denis Sautereau1, Romain Legros1, Mathieu Pioche1, Jérémie Jacques1,4
1 Service d’Hépato-gastro-entérologie, CHU Dupuytren, Limoges, France
2 Service d’Anatomopathologie, CHU Dupuytren, Limoges, France
3 Service d’Hépato-gastro-entérologie, Hôpital Édouard Herriot, CHU Lyon, France
4 BioEM, UMR 7252, CNRS, Limoges

Corresponding author
Marion Schaefer
Service d’Hépato-gastro-entérologie, CHU Dupuytren, 2 Avenue Martin Luther-King, 87042 Limoges, France
Fax: +33-5-55058733
mrn.schaefer@gmail.com

References

Bibliography
DOI https://doi.org/10.1055/a-0733-3607
Published online: 2018
Endoscopy
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

ENDOSCOPY E-VIDEOS
https://eref.thieme.de/e-videos

Endoscopy E-Videos is a free access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online.

This section has its own submission website at
https://mc.manuscriptcentral.com/e-videos

Schaefer Marion et al. Esophageal ESD using tunnel + clip strategy... Endoscopy

▶Fig. 3 En bloc circumferentially resected specimen displayed over a plastic tube.