

Submucosal tunneling endoscopic resection of a gigantic esophageal leiomyoma

Submucosal tunneling endoscopic resection (STER) for removal of small upper gastrointestinal tumors arising from the muscularis propria has been demonstrated to be effective and safe [1,2]. We demonstrated the submucosal tunneling technique for removal of a 10-cm esophageal leiomyoma, and subsequent management of a large mucosotomy.

A 66-year-old woman presented with slowly progressive solid-food dysphagia. Computed tomography (CT) scan revealed a 10×4×3-cm esophageal mass. Esophagogastroduodenoscopy showed a large esophageal subepithelial lesion at 20–30 cm from the incisors. Endoscopic ultrasound (EUS) revealed a homogeneous hypoechoic lesion with central calcification arising from the muscularis propria. The results of EUS-guided fine-needle aspiration were consistent with leiomyoma. The patient refused surgical resection, and the submucosal tunneling endoscopic resection procedure was offered.

Mucosal incision was done 3 cm proximal to the lesion using a triangular-tip knife (Olympus, Tokyo, Japan) (► Fig. 1 a, b) (► Video 1). Submucosal fiber was dissected to create the submucosal tunnel and this was continued to the level of the lesion (► Fig. 1 c). The lesion was dissected away from submucosal fiber, mucosa, and muscularis propria using an insulation-tipped diathermic knife (IT2 knife; Olympus) (► Fig. 1 d). Because of the size mismatch between the submucosal tunnel and the lesion, the lesion could not be removed from the tunnel. The decision was made to fragment the tumor into smaller pieces which were then removed from the tunnel (► Fig. 1 e). A large defect was seen in the muscle layer after resection of the tumor (► Fig. 1 f).



► **Video 1** Submucosal tunneling endoscopic resection for removal of a large esophageal leiomyoma, and subsequent management of a large mucosotomy.

We successfully placed 8 endoscopic clips (Resolution Clip; Boston Scientific, Boston, Massachusetts, USA) for closure of the mucosal incision. The patient was given Unasyn (ampicillin/sulbactam) intravenously.

On postoperative day 1, esophagography revealed an esophageal leak. Urgent EGD showed that endoclips had fallen off (► Fig. 1 g). The clips were removed and a fully covered metal stent, 23 mm in diameter (Wallflex; Boston Scientific), was deployed across the mucosal defect (► Fig. 1 h). The patient tolerated a soft diet and was discharged home on postoperative day 6. Repeat EGD was done at 4 weeks, with removal of the stent; the mucosal defect was well healed (► Fig. 1 i). The patient had resolution of dysphagia.

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Competing interests

V. Kumbhari is a consultant for Boston Scientific and Apollo Endosurgery. M. A. Khashab is a consultant for Boston Scientific. All other authors have no relevant disclosures.

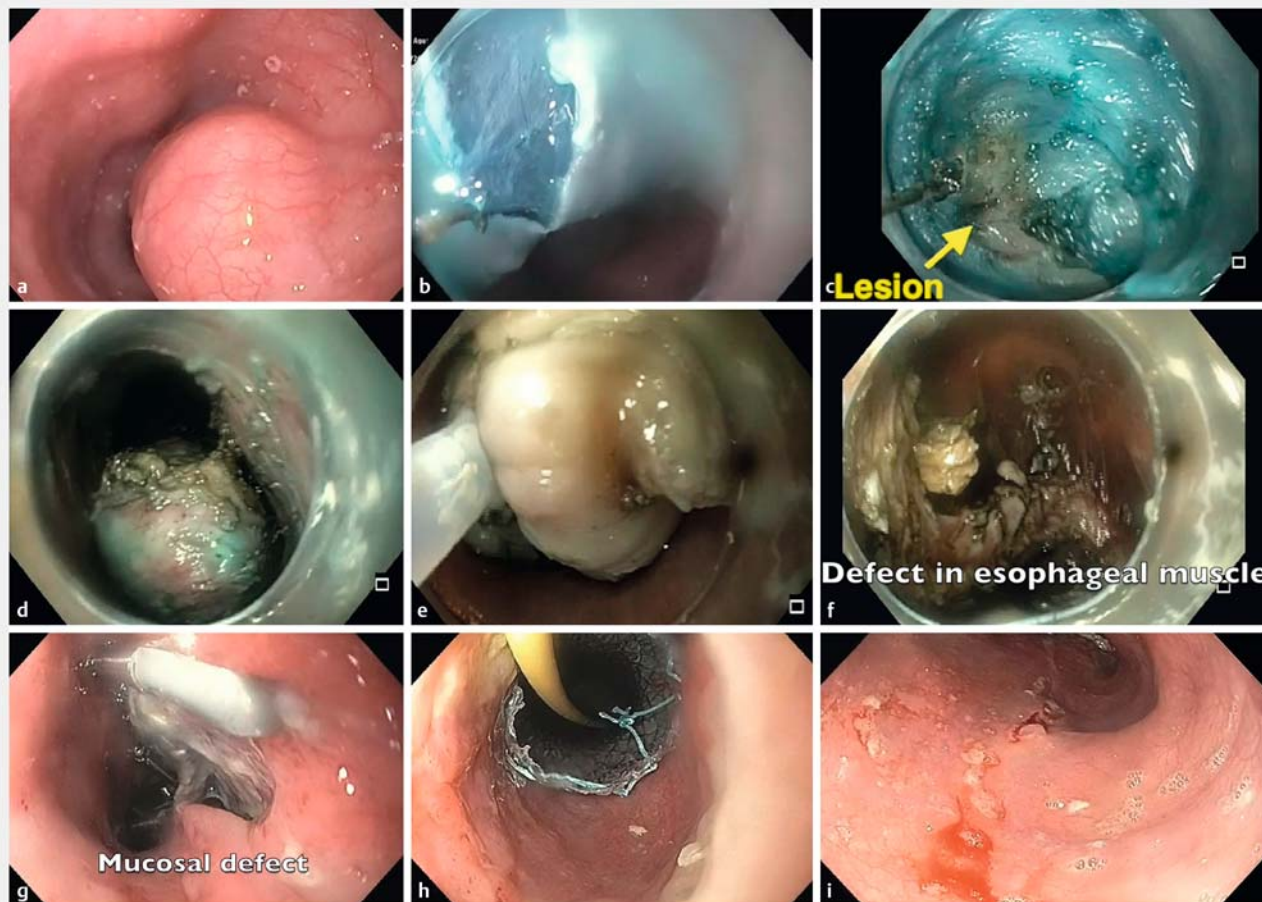
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► **Fig. 1** Submucosal tunneling endoscopic resection for removal of a large esophageal leiomyoma, and subsequent management of a large mucosotomy. **a** Large esophageal subepithelial lesion **b** Mucosal incision was done 3 cm proximal to the lesion. **c** Submucosal tunneling was done to the level of the lesion. **d** Within the tunnel the lesion was dissected away from the surrounding tissue. **e** Fragmentation of the tumor into smaller pieces, and removal from the tunnel. **f** A large defect in the muscle layer after resection of the tumor. **g** On postoperative day 1 endoclips closing the mucosal defect had fallen off. **h** An esophageal fully covered metal stent was placed across the mucosal defect. **i** The mucosal defect was well healed 4 weeks later.

References

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Bibliography

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