



Endoscopic resection of a giant solitary fibrous tumor of the esophagus

Muhammad F. Mubarak, MD,¹ Janak N. Shah, MD,² John S. Bolton, MD,³ Mona Bansal, MD,⁴
Abdul Hamid El Chafic, MD²

A 63-year-old woman with a medical history of hypertension, hypothyroidism, and GERD presented to our clinic with worsening dysphagia to solids. EGD performed by a local gastroenterologist showed a large esophageal mass. CT of the chest with contrast material revealed a high-density, nearly occlusive, esophageal mass, beginning at the thoracic inlet, measuring 3.8 cm × 2.1 cm × 10.4 cm (transverse, anteroposterior, craniocaudal), and demonstrating well-delineated smooth margins without esophageal disruption (Fig. 1).

EGD was repeated at our facility and revealed a large pedunculated subepithelial mass in the upper third of the esophagus, extending 17 to 30 cm from the incisors (Fig. 2). The mass was partially obstructive, and the endoscope was able to traverse it with minimal resistance. EUS revealed a hypoechoic mucosal mass without submucosal invasion, with a feeding vessel at the stalk (Fig. 3).



Figure 1. CT with contrast material showing esophageal mass at the level of the carina.



Figure 2. EGD view showing large pedunculated subepithelial lesion.

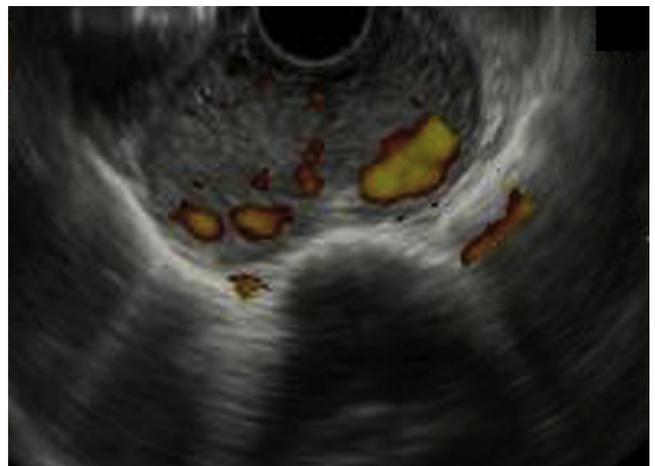


Figure 3. Endosonographic view of mucosal esophageal mass.



Figure 4. Gross view of removed mass.

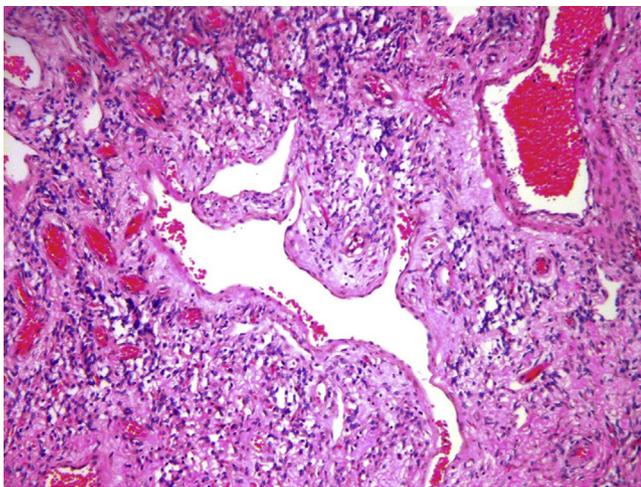


Figure 5. Microscopic view of spindle tumor cells around gaping vessels (H&E, orig. mag. $\times 40$).

functioning as a tourniquet to prevent postresection bleeding, given that the lesion had a feeding vessel at the stalk. The endoloop (Polyloop; Olympus America, Chelmsford, Mass, USA) is floppy, and it was not possible to place it in a forward view because of the intraluminal bulkiness of the lesion.

The distal third of the esophagus was dilated to allow for retroflexion in the esophagus. In retroflexion, the endoloop was negotiated around the mass, and its sheath was advanced upward toward the stalk to account for distal movement of the sheath upon un-retroflexion. The scope and the endoloop sheath were then un-retroflexed while the endoloop remained around the mass. The endoloop was then successfully placed and tightened at the base of

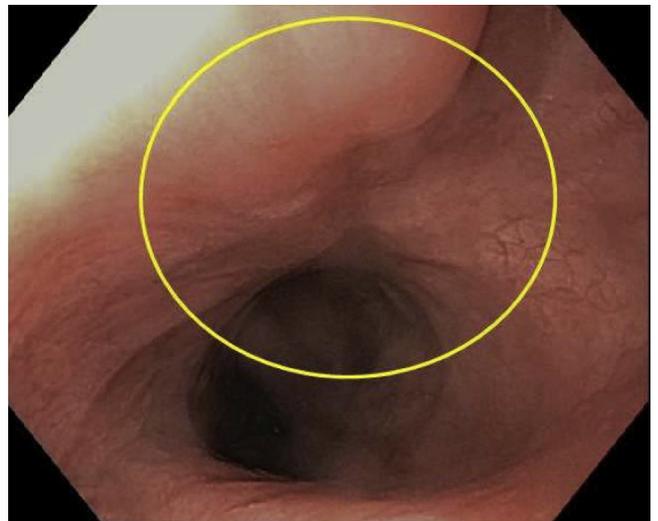


Figure 6. Follow-up EGD view 2 months after resection showing postmucosectomy scar without residual tumor.

the stalk. The lesion then turned purple, confirming successful tamponading of the feeding vessel.

An extra-large, rounded, stiff 33-mm snare (Captivator; Boston Scientific, Marlborough, Mass, USA) was then negotiated around the mass and tightened about 3 mm above the endoloop with the same technique as the endoloop placement. Blended current was applied for about 15 seconds with the use of Endocut Q mode (ERBE USA, Marietta, Ga, USA) with effect 2, cut duration 1, and cut interval 3. The mass was successfully cut. However, the endoloop did not hold; it fell off after resection of the mass because of the thickness of the stalk. It is also possible that the back, nonvisible portion of the endoloop was entrapped inside the snare, but no cautery marks were seen on the endoloop upon endoscopic inspection. A bleeding vessel was seen at the base of the resection site. The bleeding was successfully controlled by thermal therapy with use of a hemostatic grasper (Coagrasper Hemostatic Forceps; Olympus America). The mass was retrieved in 1 piece by use of the same snare (Fig. 4).

The patient was admitted for 12-hour observation, during which she was completely asymptomatic and was able to tolerate soft food before being discharged home.

Pathologic findings of the removed esophageal mass revealed atypical spindle cells that were positive for BCL-2, vimentin, CD34, and STAT-6. The findings were consistent with solitary fibrous tumor (SFT) with giant cells (Fig. 5). A follow-up EGD performed 2 months later showed a healed scar with no residual lesion (Fig. 6).

DISCUSSION

An SFT is a neoplasm of mesenchymal origin that presents with a wide range of biologic behavior. SFTs are commonly known to involve the visceral pleura, but

esophageal involvement rarely can occur.^{1,2} Clinicopathologic models for risk prediction are available; however, the molecular predictors for malignant potential in SFTs are yet to be elucidated.¹ Overall, SFTs of the esophagus are considered to be benign. The mainstay of treatment is removal with clear margins, followed by histopathologic confirmation of benign behavior.²

Only 5 cases of esophageal SFT have been reported.³ The preferred treatment method of primary esophageal SFT is yet to be determined, but the majority of cases have been treated surgically. Only 1 recent case report described successful endoscopic submucosal dissection of the tumor.³ To our knowledge, this is the first report of the resection of an esophageal giant SFT by endoloop-assisted endoscopic resection. This approach could be considered if there is no submucosal involvement of such lesions.

DISCLOSURE

Dr El Chafic is a consultant for Medtronic. Dr Shab is a consultant for Boston Scientific and Olympus Medical. All

other authors disclosed no financial relationships relevant to this publication.

Abbreviation: SFT, solitary fibrous tumor.

REFERENCES

1. Bahrami A, Lee S, Schaefer I-M, et al. TERT promoter mutations and prognosis in solitary fibrous tumor. *Mod Pathol* 2016;29:1511-22.
2. Sun J, Yu XR, Shi BB, et al. CT features of retroperitoneal solitary fibrous tumor: report of three cases and review of the literature. *World J Surg Oncol* 2014;12:324.
3. Zhu XS, Dai YC, Chen ZX. Giant solitary fibrous tumor of esophagus resected by endoscopic submucosal dissection. *Ann Thorac Surg* 2015;100:2340-3.

Department of Internal Medicine (1), Division of Gastroenterology (2), Department of Surgery (3), Department of Pathology (4), Ochsner Clinic Foundation, New Orleans, Louisiana, USA.

Copyright © 2018 American Society for Gastrointestinal Endoscopy. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.vgje.2018.07.018>
