Endoscopic retrieval followed by compression hemostasis using a Sengstaken–Blakemore tube to manage a foreign body with suspected aortic injury

Fig. 1 Contrast-enhanced computed tomography scan of a 44-year-old woman with a fishbone stuck in her esophagus. The fishbone had pierced the esophageal wall and was close to the descending aorta (arrow).

Video 1

Endoscopic retrieval of a fishbone followed by compression hemostasis using a Sengstaken–Blakemore tube. Postoperative care and examinations are also presented.

Fig. 2 Endoscopic image of the tip of the fishbone.

Fig. 4 Esophageal compression hemostasis using an inflated gastric balloon.

Fig. 3 A 2.2 cm long fishbone retrieved endoscopically from the esophageal wall.

Fig. 5 Mild mucosal erosion 20 h postoperatively after endoscopic retrieval of a fishbone followed by compression hemostasis using a Sengstaken–Blakemore tube.

Fig. 6 Computed tomography showed no hemorrhage or undesired complications 7 days postoperatively after endoscopic retrieval of a fishbone followed by compression hemostasis using a Sengstaken–Blakemore tube.

A 44-year-old woman presented with unremitting chest pain after a fish meal. A fishbone had been stuck in her esophagus overnight. A local endoscopist had tried to remove it but had failed. Contrast-enhanced computed tomography (► **Fig. 1**) confirmed that there was a high density line shadow in the esophagus just below the tracheal bifurcation. The fishbone had pierced the esophageal wall and was close to the descending aortic adventitia, and possible aortic injury was strongly suspected. Standard cardiovascular surgery was planned, but was refused by the woman and her relatives because of the potentially massive surgical trauma.

With written informed consent, an innovative endoscopic strategy involving multidisciplinary cooperation was successfully employed (► **Video 1**). Using endoscopic imaging, only the tip of the fishbone could be observed, 28 cm from the incisors (► **Fig. 2**). Grasping forceps were introduced and the 2.2-cm-

long fishbone was successfully retrieved (► **Fig. 3**). Then fresh blood immediately spurled out. After flushing with normal saline, a Sengstaken–Blakemore tube (SBT) was immediately inserted. The gastric balloon was placed accurately over the mucosal wound, inflated with 100 mL of gas, and adjusted for local compression

hemostasis (● Fig. 4). The SBT was deflated under endoscopy 20 h postoperatively. Only mild mucosal erosion was observed and there was no active bleeding (● Fig. 5). The patient's postoperative course was uneventful (● Fig. 6).

Endoscopic management is necessary in only 10%–20% of foreign-body cases, while fewer than 1% require a standard surgical procedure [1]. For patients with suspected injury of the descending aorta or life-threatening esophagus–aorta fistula, surgical management is commonly recommended. In previous reports, an SBT has been used to control the arterial hemorrhage before unavoidable surgery [2,3]. In our patient, the inflating gastric balloon was not used as a preoperative intervention, but was effectively applied for local compression hemostasis immediately after an endoscopic procedure. Tailored adjustment of compression and its duration was important for successful treatment. This combined strategy is minimally invasive, feasible, and safe, and could provide an alternative approach to surgical treatment for patients at high risk. Further research is necessary to weigh the clinical benefits against the potential complications of this strategy.

Endoscopy_UCTN_Code_CPL_1AH_2AC

Competing interests: None

Chenguang Dai¹, Lili Zhao¹, Min Wang¹, Sichong Qian², Xiang Wang¹, Zhining Fan¹, Li Liu¹

¹ Digestive Endoscopy Center, The First Affiliated Hospital with Nanjing Medical University and Jiangsu Province Hospital, Nanjing, China

² Department of Cardiovascular Surgery, The First Affiliated Hospital with Nanjing Medical University and Jiangsu Province Hospital, Nanjing, China

Acknowledgments

This study was supported by the National Natural Science Foundation of China (81172266&81302107), the Life Health Technology Foundation of Jiangsu province (BL2012031), and the “333 Engineering” Foundation of Jiangsu province (BRA2015472).

References

- 1 Athanassiadi K, Gerazounis M, Metaxas E et al. Management of esophageal foreign bodies: a retrospective review of 400 cases. *Eur J Cardiothorac Surg* 2002; 21: 653–656
- 2 Yamada T, Sato H, Seki M et al. Successful salvage of aorto-esophageal fistula caused by a fish bone. *Ann Thorac Surg* 1996; 61: 1843–1845
- 3 Assink J, Vierhout BP, Snellen JP et al. Emergency endovascular repair of an aorto-esophageal fistula caused by a foreign body. *J Endovasc Ther* 2005; 12: 129–133

Bibliography

DOI <http://dx.doi.org/10.1055/s-0042-112973>
Endoscopy 2016; 48: E281–E282
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Corresponding author

Li Liu, MD
Institute of Digestive Endoscopy
The First Affiliated Hospital with
Nanjing Medical University
300 Guangzhou Road
Nanjing 210029
China
Fax: +86-25-58509931
kit9178@sina.com