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

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 aorta (arrow).

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 spurted 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.

**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).

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

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

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

**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.
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.

Competing interests: None

Chenguang Dai¹, Lili Zhao¹, Min Wang¹, Sichong Qian², Xiang Wang¹, Zhining Fan¹, Li Liu¹
¹Digestive Endoscopy Center, The First Affiliated Hospital with Nanjing Medical University and Jiangsu Province Hospital, Nanjing, China
²Department of Cardiovascular Surgery, The First Affiliated Hospital with Nanjing Medical University and Jiangsu Province Hospital, Nanjing, China

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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