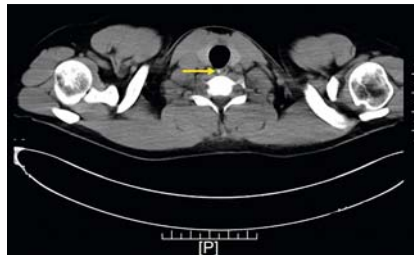


## Successful endoscopic extraction of a missing proximal esophageal foreign body

A 32-year-old man swallowed a piece of iron wire by mistake approximately 8 weeks before admission. Computed tomography (CT) of the larynx showed a short, high-density strip, judged to be a foreign body (about 6–8 mm long at level 6/7 of the cervical vertebra), in the upper esophagus (► **Fig. 1**). No abnormal findings resulted from several gastroscopy and laryngoscopy examinations in the local hospital, indicating that the foreign body was embedded under the mucosal layer. The patient was very anxious and insisted doctors remove it.

We first used endoscopic ultrasound and real-time X-ray monitoring to mark the foreign body, but both failed due to the foreign body's difficult position. We therefore endoscopically fixed three titanium clips at different positions of the upper esophagus based on the appearance of the previous CT scan and determined the location of the foreign body by a second CT scan (► **Fig. 2**). Endoscopic submucosal dissection (ESD) was then performed just near the esophageal entrance (1–2 cm from the entrance) and the submucosal foreign body was found and removed (► **Fig. 3**, ► **Fig. 4**, ► **Video 1**). The wound was then closed by clips. An additional CT scan was performed 1 month later, confirming that the foreign body had been removed (► **Fig. 5**).

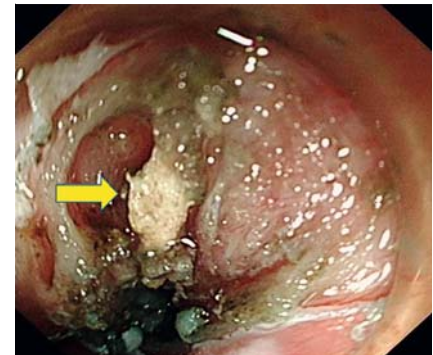
Buried submucosal foreign bodies in the esophagus, although very rare, can cause serious complications [1]. The ESD procedure is safe for a buried and covered foreign body in the esophagus, and it could be the first choice of treatment [2–4]. However, how to determine the location is crucial.



► **Fig. 1** Computed tomography of the larynx showing high-density foreign body in the wall of the upper esophagus (at about level 6/7 of the cervical vertebra) (arrow).



► **Fig. 2** The position of the foreign body (yellow arrow) was determined by titanium clip (red arrow) combined with the computed tomography scan of the cervical esophagus.



► **Fig. 3** The submucosal foreign body with a yellow "coat" exposed after cutting the mucosa.



► **Fig. 4** The internal metal-like substance exposed after cleaning the surface.

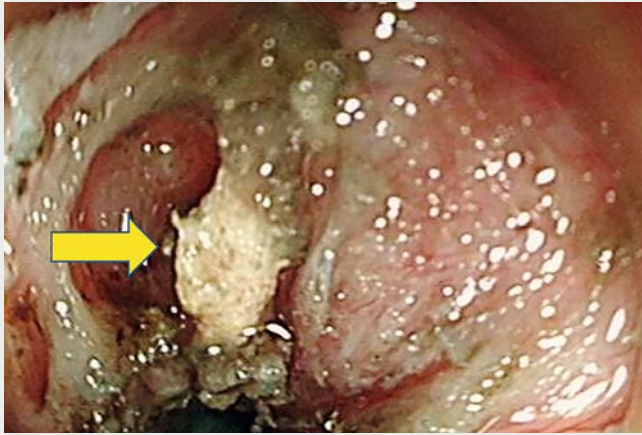
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### Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 5** Computed tomography scan 1 month after endoscopic mucosal dissection showing no evidence of esophageal foreign body.



**Video 1** Extraction of a missing proximal esophageal foreign body by endoscopic mucosal dissection.

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## The authors

**Lijuan Yang, Xiao Han, Min Xu, Rong Wan, Xiaobo Cai**

Department of Gastroenterology, Shanghai General Hospital, Shanghai Jiaotong University, School of Medicine, Shanghai, China

## Corresponding author

**Xiaobo Cai, MD**

Department of Gastroenterology, Shanghai General Hospital, School of Medicine, Shanghai Jiaotong University, Shanghai 200080, China  
Fax: +86-021-6324-0090  
[caixiaobo1979@hotmail.com](mailto:caixiaobo1979@hotmail.com)

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