Complete endoscopic management of tubular esophageal duplication in a young woman

A 29-year-old woman was referred to our department for endoscopic dilation of upper esophageal stricture. Dilation was performed with Savary–Gilliard dilators allowing the passage with resistance of a standard flexible video gastroscope (EG-201FP; Fujinon, Willich, Germany). Esophagogastroduodenoscopy showed a double esophageal lumen at 18 cm from the incisors. A thick bridge of intact mucosa separated the two lumens (Fig. 1). The passage of the endoscope through the second lumen was not possible. At 32 cm, a distal defect was also found. A barium esophagogram and high-resolution computed tomography (CT) scan confirmed esophageal tubular duplication (Fig. 2 and Fig. 3).

Under general anesthesia, the standard video gastroscope was pushed down to the proximal opening of the duplication. After an easy passage of a 0.035-inch guide wire (Boston Scientific, Natick, MA, USA) in the duplicated lumen, a lengthwise incision of the intraluminal bridge was performed by using a 5.5-Fr needleknife (microKnife XL; Boston Scientific). The incision was performed step by step, from the upper to the distal end (Fig. 4, Videos 1–3). The procedure was completed with dilation of the upper esophageal stricture by using a wire-guided balloon (Boston Scientific) advanced through the endoscope and expanded up to 12 mm.

Biopsies performed along the incision showed the presence of malpighian epithelium. The patient’s early post-procedural course was marked by an iatrogenic mediastinal emphysema and bilateral pneumothorax, more pronounced in the left. The placement of a left chest drain led to rapid improvement. Upper endoscopy on day 20 showed two longitudinal residual folds (Fig. 5).

Endoscopic management of esophageal duplication was reported twice previously for the cystic form [1,2]. To our knowledge, only one case of endoscopic management of a tubular esophageal duplication has previously been reported [3]. Nevertheless, the procedure was decided upon after surgical examination through a right thoracoscopy. Our case highlights the possibility of complete endoscopic management of tubular esophageal duplication. The post-procedure pneumothorax could have been avoided by carbon dioxide insufflation [4].

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Competing interests: None

Fig. 1 Upper gastrointestinal endoscopy showing two esophageal lumens separated by a septum at 18 cm from the incisors.

Fig. 2 Contrast study showing tubular duplication of the esophagus.

Fig. 3 Computed tomography (CT) scan showing evidence of tubular duplication of the esophagus.

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Interventional endoscopy: a lengthwise incision was made of the intraluminal bridge by using a needle knife starting from the upper end and achieved step by step. The procedure was completed with dilation of the upper esophageal stricture.

N. Tahri1, L. Mnif1, L. Chtourou1, M. Boudabbous1, K. Yaïch1, H. Fourati2, Z. Mnif2, A. Amouri1

1 Department of Gastroenterology, Hedi Chaker University Hospital, Sfax, Tunisia
2 Department of Radiology, Hedi Chaker University Hospital, Sfax, Tunisia

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Corresponding author
L. Mnif
Department of Gastroenterology
Hedi Chaker University Hospital
Route el Ain
3029 Sfax
Tunisia
Fax: +216-74-243993
leilamnif@yahoo.fr

Videos 1–3
Interventional endoscopy: a lengthwise incision was made of the intraluminal bridge by using a needle knife starting from the upper end and achieved step by step. The procedure was completed with dilation of the upper esophageal stricture.

Fig. 4 Image of interventional endoscopy showing incision of the intraluminal bridge by using a needle knife.

Fig. 5 Endoscopic image of two residual folds of the duplication.

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