

## Case of the Month

### APPLICATION FORM

#### Case Title: Endoscopic treatment of esophageal tubular duplication

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#### Brief case description (max. 300 words)

A 3-year-old boy presented with dysphagia and inability to eat solid food persisting more than a year. The physical, laboratory and abdominal ultrasound examinations were unremarkable. Esophagogram with water-soluble contrast showed a double esophageal lumen. Computed tomography validated an esophageal lumen duplication localized at the level of the aortic arch. Upper gastrointestinal endoscopy showed that esophageal lumen was divided into three parts by thick mucosal bridges. The main lumen was larger, whereas the accessory two lumen parts were narrower (one of them was only up to 1 mm in diameter). We treated it endoscopically using a gastroscope with 9.2 outer diameter with a straight distal capture and O-type endoscopic knife. Oral nutrition with liquid food was started on the next morning after the resection and solid food was introduced after 1 week.

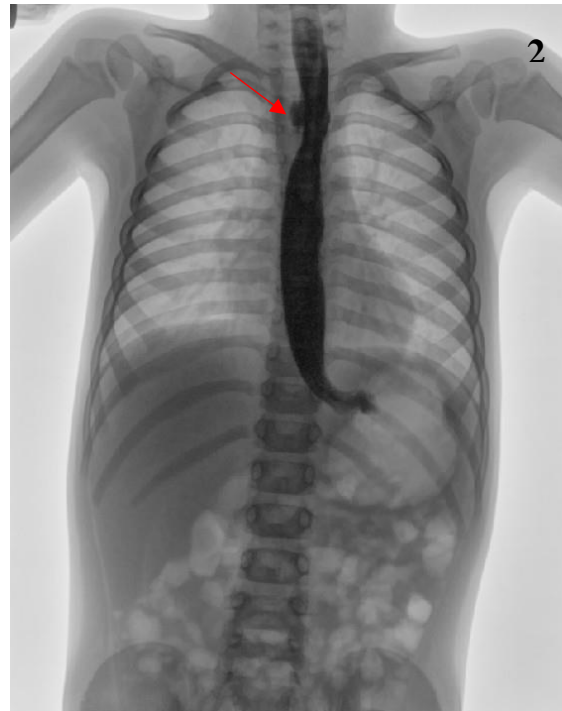
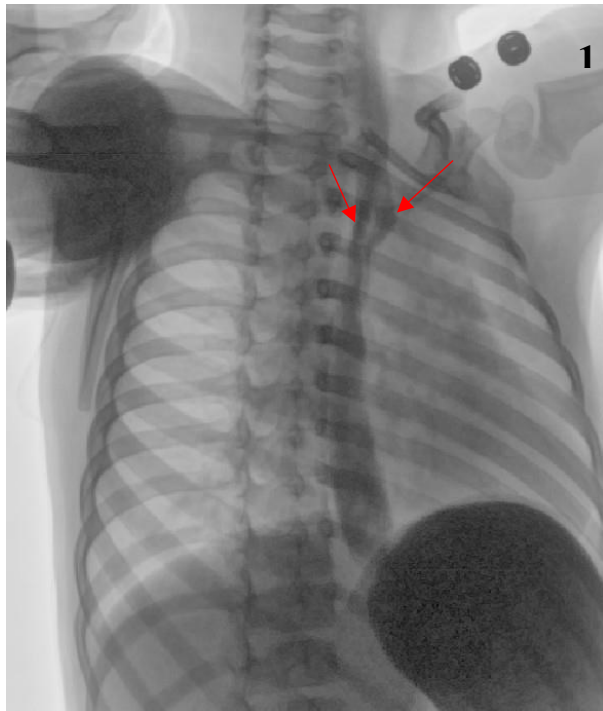
After the first endoscopic intervention the symptoms resolved. Follow up endoscopy (10 months later) showed a deep mucosal pocket located on the right esophageal wall which was likely as a result of incomplete mucosal bridge resection because of considerable tissue edema and a high risk of esophageal wall perforation during the first endoscopic procedure. This bridge was successfully resected in order to prevent food impaction in the future. On follow up endoscopy (6 months after the second intervention) the lumen was clear and straight, with insignificant mucosal scarring in the duplication area.

Esophageal duplications are rare malformations represent about 10% of all foregut duplications. Esophageal duplications are classified as cystic or tubular type duplications [1]. Up to 95% of them are cystic [2]. Tubular esophageal duplications are extremely rare. Depending on the duplication localization the clinical presentation can include dysphagia, regurgitation, hemorrhage, compression of adjacent organs, infection, perforation, tachypnea, chest pain, esophageal obstruction caused by food impaction [3]. Even in asymptomatic cases, duplications should be resected in order to prevent malignant transformation [4]. Traditional methods of treatment are thoracotomy and thoracoscopy. The

endoscopic resection is a less invasive method of esophageal tubular duplication treatment that can become a successful alternative to surgery [5].

1. Puligandla, P S et al. "Gastrointestinal duplications." *Journal of pediatric surgery* vol. 38,5 (2003): 740-4. doi:10.1016/j.psu.2003.50197
2. Coumaros, Dimitri et al. "Endoscopic management of a tubular esophageal duplication diagnosed in adolescence (with videos)." *Gastrointestinal endoscopy* vol. 71,4 (2010): 827-30. doi:10.1016/j.gie.2009.12.011
3. Cavdar, Seher & Kirschner, Hans-Joachim & Fuchs, Joerg. (2016). First endoscopic membranotomy of a tubular type esophageal duplication cyst performed on a child. *Journal of Pediatric Surgery Case Reports*. 15. 10.1016/j.epsc.2016.10.003.
4. Neo EU, Watson DI, Bessell JR. Acute ruptured esophageal duplication cyst. *Dis Esophagus* 2004;17:109-11.
5. Barabino, Arrigo et al. "Tubular esophageal duplication: further evidence of a possible endoscopic treatment." *Journal of pediatric gastroenterology and nutrition* vol. 58,6 (2014): e53. doi:10.1097/MPG.0b013e31826c21f6

Pictures (add related picture(s) below - resolution min. 72 DPI)



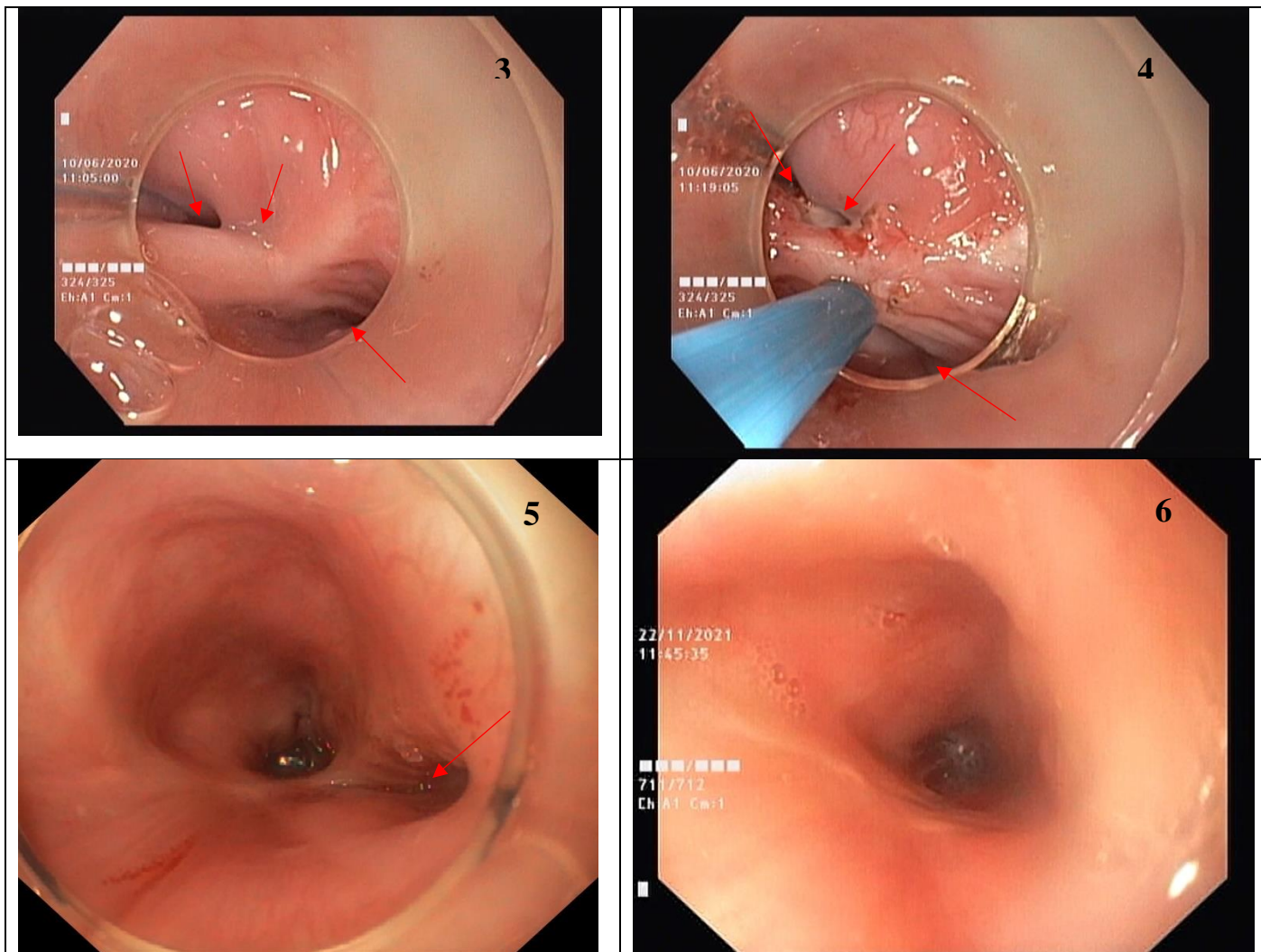


Figure (add description below)

Figure 1. Primary esophagogram: double esophageal lumen (marked with arrows).

Figure 2. Control esophagogram (2 month after first intervention): restored esophageal lumen with deep pocket (marked with arrow).

Figure 3. Endoscopic view before first intervention (the three lumen parts marked with arrows), the second lumen part was only 1 mm and was hardly identified.

Figure 4. Endoscopic incision of the bridges (the lumen parts marked with arrows).

Figure 5. Endoscopic view before second intervention ( the deep pocket marked with arrow).

Figure 6. Result of endoscopic treatment (6 months after second incision).

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