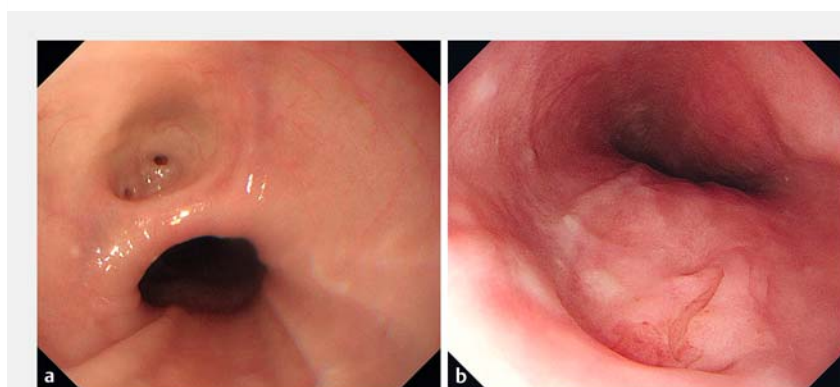


Complete resection of an esophageal tubular duplication with high grade squamous intraepithelial neoplasia by endoscopic submucosal dissection

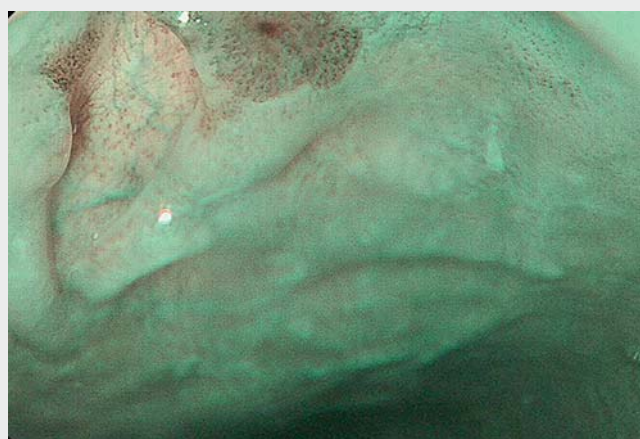
We performed a gastroscopy in a 46-year-old man with upper abdominal pain, which revealed an esophageal tubular duplication (27 cm from the incisors) (► **Fig. 1 a**) and red thickened mucosa (approximately 6 mm in diameter) at its distal opening (► **Fig. 1 b**). Magnifying gastroscopy detected clear boundaries of this mucosal patch, which contained type B1 blood vessels and was diagnosed as being squamous high grade neoplasia. Histopathological examination of the biopsy subsequently confirmed this diagnosis. Neither an enhanced computed tomography (CT) scan of the chest or an upper gastrointestinal angiography showed any abnormalities.

After consultation with the thoracic surgeons, we decided to perform endoscopic submucosal dissection (ESD) to remove the mucosal lesion with the patient under general anesthesia. However, the upper edge of the mucosa was located inside the tubular duplication and could not be observed. Therefore, we chose to excise the entire duplication, including the squamous high grade neoplastic mucosa (► **Video 1**). The existence of an annular muscularis propria between the tubular duplication and the lumen of the esophagus (► **Fig. 2**) made the operation difficult, because the cutting of the muscularis propria was likely to perforate the esophagus. We successfully cut the muscularis propria with an IT knife and a FlushKnife (► **Fig. 3**) and completely removed the lesion. A strong muscularis propria with two holes unrelated to the operation (3 mm in diameter) was seen in the wound field. Because these holes might have communicated with the chest cavity, the wound and holes were sutured with Harmony clips to prevent postoperative perforation and thoracic cavity infection.

The pathological diagnosis postoperatively was esophageal squamous intraepithelial neoplasia (dysplasia), high grade (► **Fig. 4**); the horizontal and vertical



► **Fig. 1** Endoscopic views showing: **a** two sinuses at the proximal end of the esophageal duplication; **b** red thickened mucosa at the distal opening of the esophageal tubular duplication.



► **Video 1** Video showing the resection by endoscopic submucosal dissection of esophageal tubular duplication with squamous intraepithelial high grade neoplasia.

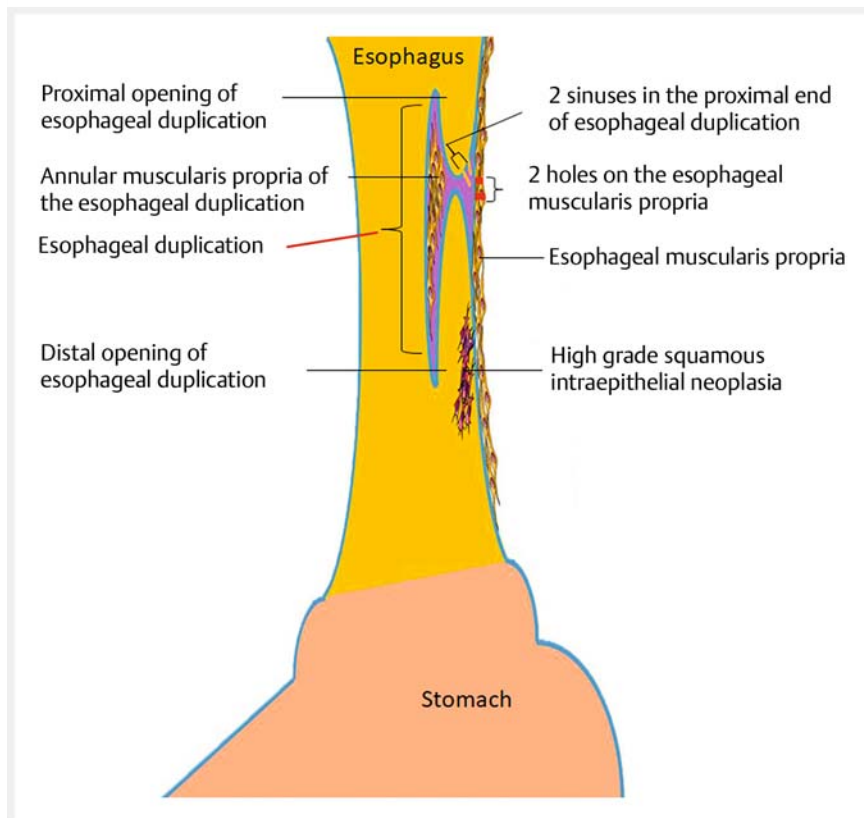
margins were negative. The esophageal wound healed well, without any symptoms over a 2-year follow-up period. Esophageal duplications, of which there are three types (cystic, tubular, or diverticular) [1], account for 10%–20% of all gastrointestinal duplications [2]. The advantages of resecting an esophageal tubular duplication with ESD to treat internal squamous high grade neoplasia

are low trauma, fast recovery, and the preservation of esophageal function.

Endoscopy_UCTN_Code_TTT_1AO_2AG

Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 2** A schematic diagram illustrating the pathological anatomy of the patient's esophageal tubular duplication.



► **Fig. 4** Postoperative histopathological appearance showing esophageal squamous intraepithelial neoplasia (high grade dysplasia).



► **Fig. 3** Endoscopic view of the cut and opened annular muscularis propria of the esophageal tubular duplication (approximately 1 cm wide), showing the tubular structure.

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Endoscopy 2022; 54: E556–E557

DOI 10.1055/a-1694-2843

ISSN 0013-726X

published online 15.12.2021

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Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

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