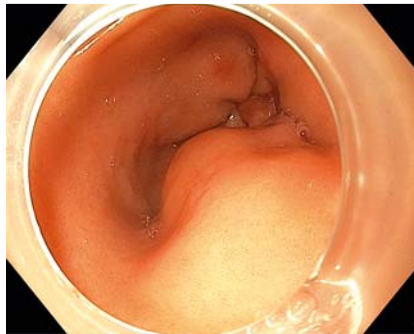


## Endoscopic resection of a complex gastric duplication cyst using a submucosal tunneling technique

A 48-year-old woman was incidentally found to have a submucosal lesion (~3 cm) in the antrum, while being evaluated for dyspeptic symptoms (► **Fig. 1**). Imaging including endoscopic ultrasound and computed tomography suggested a cystic lesion in the antrum (► **Fig. 2**).

She underwent endoscopic resection of the cystic submucosal lesion using a tunneling technique (► **Video 1**). Marks were made around the lesion using a closed triangular knife in soft coagulation mode (effect 4, 80W). A submucosal lifting injection was performed with diluted indigo carmine dye at the proximal edge of the lesion using a sclerotherapy needle. Subsequently, a longitudinal incision measuring about 2 cm was made. The submucosal fibers along the incision were cleared and the gastroscope was passed into the tunnel. After performing submucosal dissection for about 1 cm, it was possible to visualize the submucosal cystic lesion. The surrounding attachments were systematically cleared using triangular and insulated-tip knives; care was taken to avoid injury to the cyst wall. After dissection had been completed, the lesion was sucked into the cap and brought out via the oral cavity (► **Fig. 3**). Histopathological examination revealed a large cyst consisting of multiple smaller cysts. Each cyst wall consisted of mucosa, submucosa, and muscularis propria, suggesting a diagnosis of gastric duplication cyst (► **Fig. 4 a**). In addition, a focal island of pancreatic acini lined by pyramidal cells could be seen, signifying pancreatic heterotopia (► **Fig. 4 b**).

Gastric duplication cysts are extremely rare and account for about 4% of all gastrointestinal duplication cysts [1]. Although, the majority of the cases are incidentally diagnosed, bleeding, pain, gastric outlet obstruction, and rarely malignant transformation have been reported [2]. The diagnosis is usually suspected



► **Fig. 1** Endoscopic view showing a submucosal bulge along the greater curvature in the antrum.



► **Fig. 2** Endoscopic ultrasound view showing the cystic lesion in the antrum.



► **Video 1** Technique of submucosal tunneling endoscopic resection (STER) in a patient with a gastric duplication cyst.

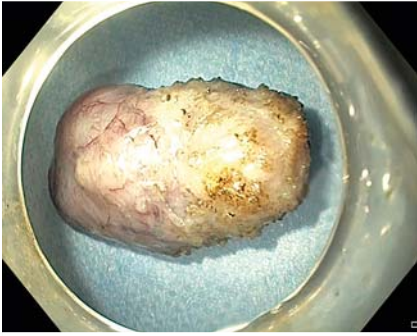


on imaging, especially endoscopic ultrasound [3]. Traditionally, surgery has been used for the management of these lesions. With recent advancements in therapeutic endoscopy, a substantial proportion of these lesions can be resected using submucosal endoscopy techniques [4].

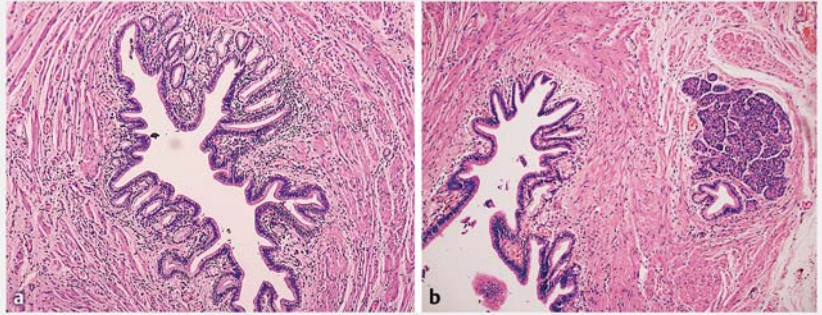
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### Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 3** Macroscopic appearance of the resection specimen following en bloc removal of the cyst.



► **Fig. 4** Histopathology of the resected specimen showing: **a** a cyst composed of a trilayer structure (mucosa, submucosa, and muscularis propria) consistent with a gastric duplication cyst; **b** ectopic pancreatic tissue within the gastric duplication cyst.

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