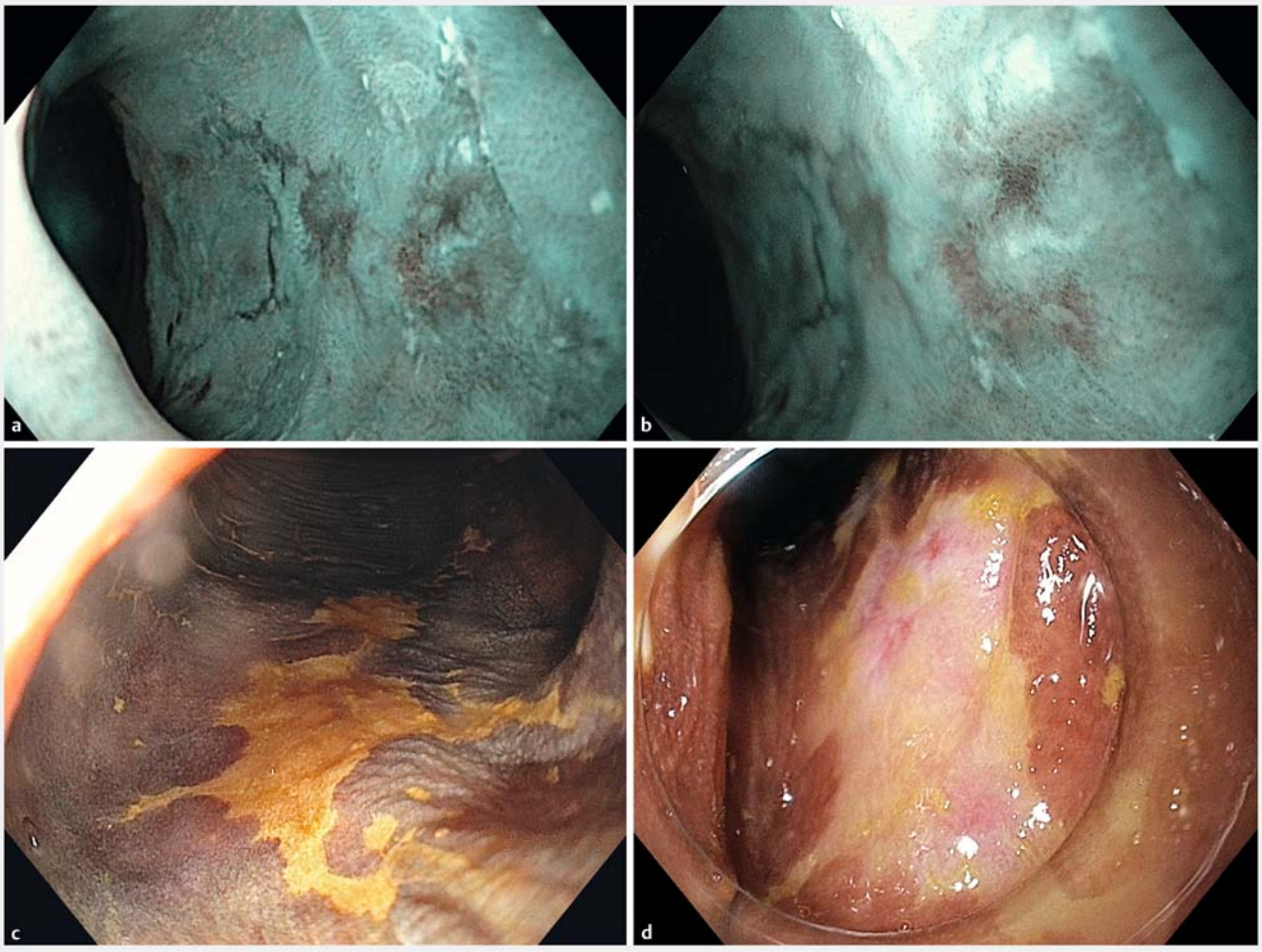
Endoscopic submucosal dissection of a squamous cell carcinoma of the esophagus developing in the area of a previous Heller's myotomy for achalasia

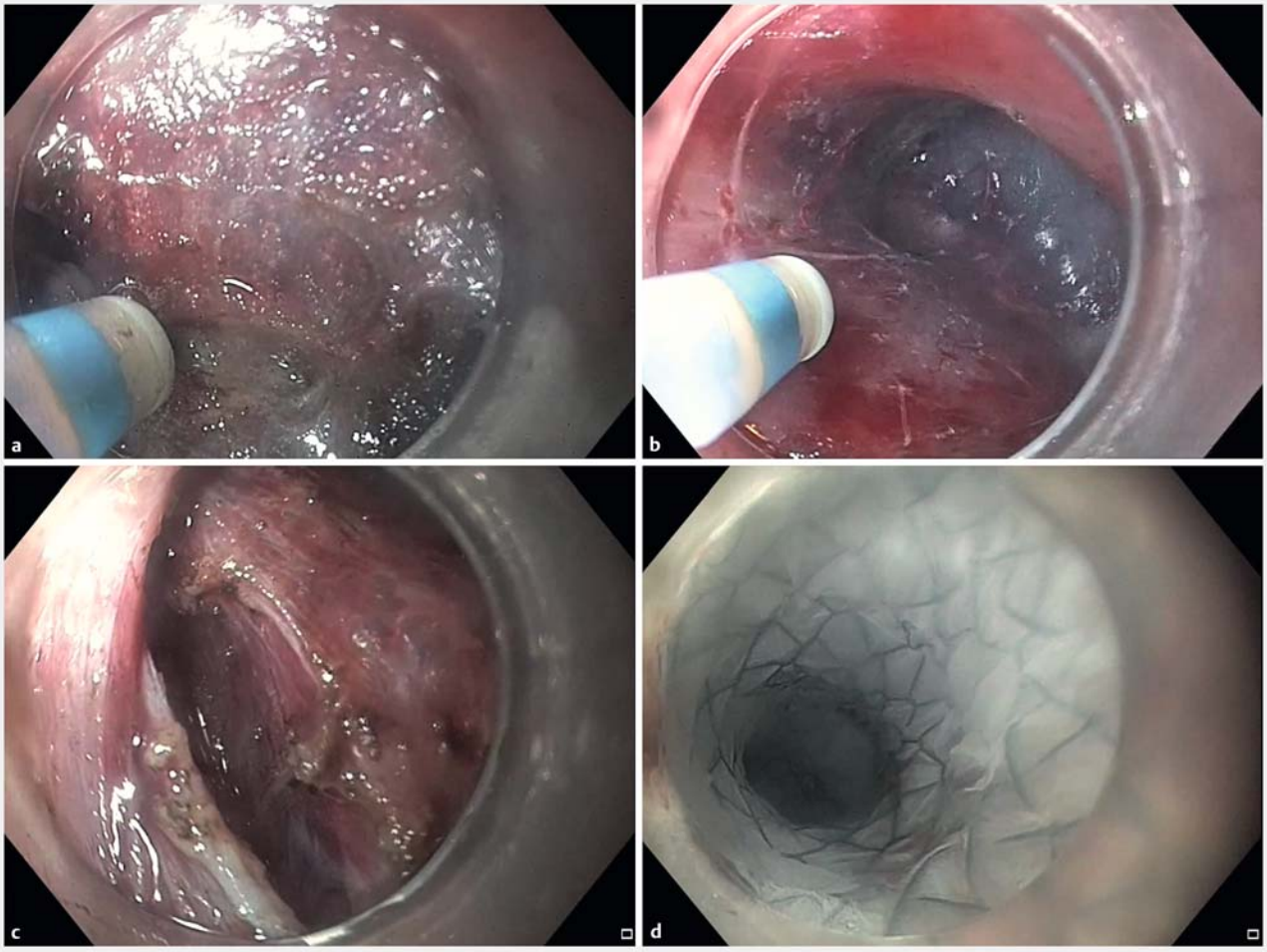


▶ **Fig. 1** Endoscopic appearance of the esophageal lesion showing: **a, b** very mild vessel irregularities on narrow-band imaging; **c, d** an unstained lesion with the pink-color sign after staining with Lugol dye.

Achalasia is considered a risk factor for esophageal cancer; nevertheless, there is no consensus for any regular screening [1, 2]. A few reports have described early esophageal cancer associated with achalasia that has been resected by endoscopy [3, 4]. Here we report a case of endoscopic submucosal dissection (ESD) for a squamous cell carcinoma that developed in the area of a previous Heller's myotomy.

A 77-year-old woman with achalasia underwent Heller's myotomy in 2015. In March 2017 she underwent follow-up endoscopy and a squamous cell carcinoma was detected in the lower third of the esophagus. Examination using magnified narrow-band imaging (NBI) revealed very mild vessel irregularities (▶ **Fig. 1a, b**), but the use of Lugol dye demonstrated an unstained lesion with the pink-color sign (▶ **Fig. 1c, d**). ESD was successfully performed but the lesion was located on the area of the previous myotomy and there was no circular muscle layer left under the submucosa (▶ **Video 1**; ▶ **Fig. 2**). During the procedure, the scarred tissue under the submucosa maintained the structure of the esophageal wall and no perforation occurred. At the end of the procedure, a 24-mm covered metal stent (Taewoong Medical, Seoul, South Korea) was placed and fixed with two clips to avoid delayed perforation.

A subsequent computed tomography (CT) scan showed neither a pneumomediastinum nor signs of esophageal perforation (▶ **Fig. 3**). Pathology confirmed an intramucosal squamous cell carcino-



▶ **Fig. 2** Views during the procedure showing: **a** submucosal fibrosis in the area of the previous Heller's myotomy; **b** the tunnel with lower enlargement in the previous myotomy area; **c** muscle fibrosis in the area of the previous myotomy; **d** a stent positioned to cover the area.

Video 1 Endoscopic submucosal dissection of an esophageal squamous cell carcinoma found in the area of a previous Heller's myotomy, a covered metal stent is placed at the end of the procedure and is subsequently removed 2 weeks later.

ma that had been resected with free margins. The patient recovered completely, being able to eat on day 1, and was discharged on day 3 following the procedure with no delayed morbidity. The stent was removed after 2 weeks because of pain, which disappeared after stent removal.

To our knowledge, this is the first case of ESD for an early esophageal cancer in the area of a previous Heller's myotomy. ESD has been shown to be a safe and effective procedure for early esophageal cancer [5], even in a previously treated achalasia patient [3]. Previous myotomy should not be considered a contraindication to an ESD procedure in such patients, but a prophylactic stent can be placed to reduce the risk of complications.

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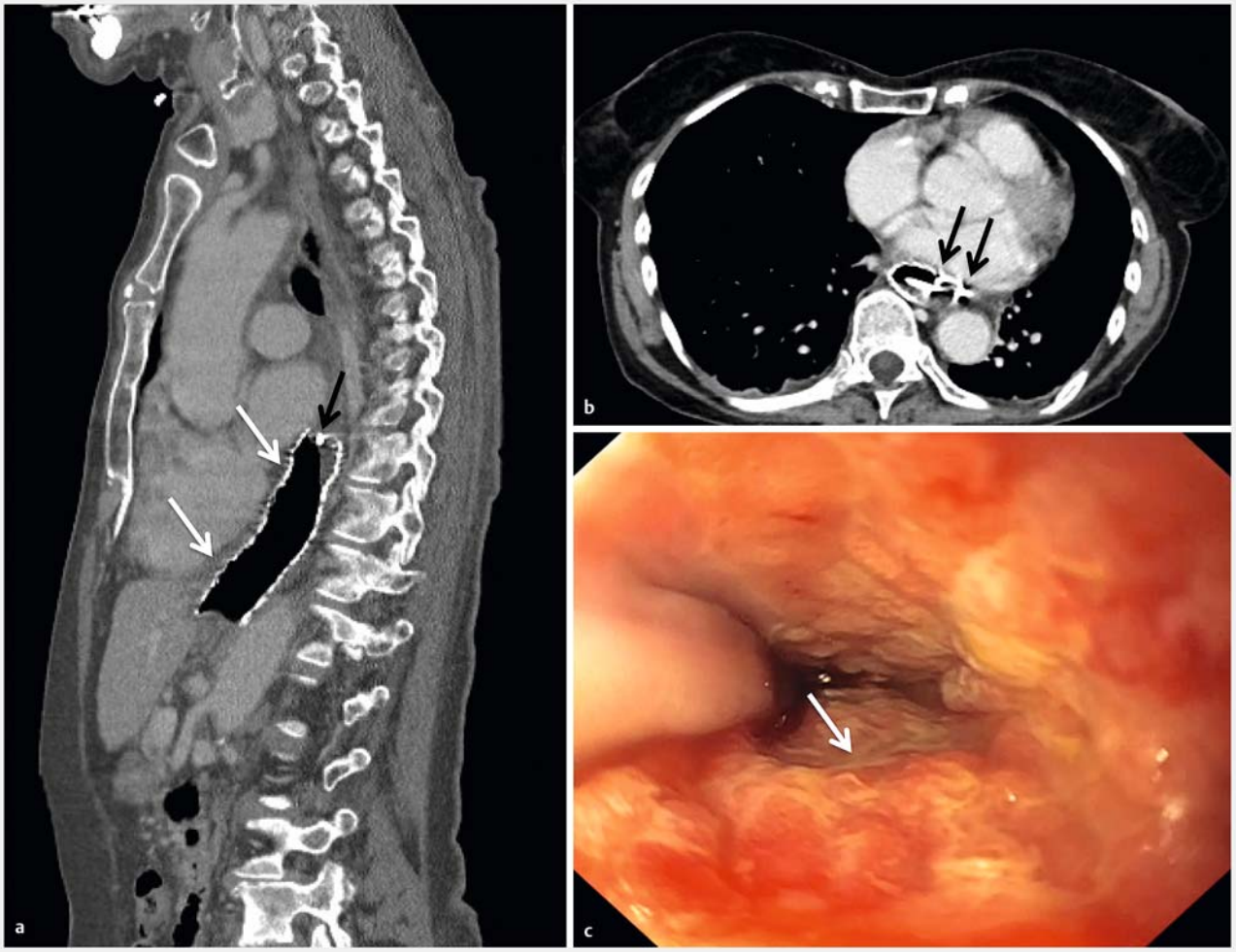

▶ **Fig. 3** Appearances following the procedure: **a, b** on chest computed tomography, showing a 24-mm covered metal stent (white arrows) fixed with two clips (black arrows) and no evidence of either a pneumomediastinum or esophageal perforation; **c** on endoscopy after stent removal .

Competing interests

None

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