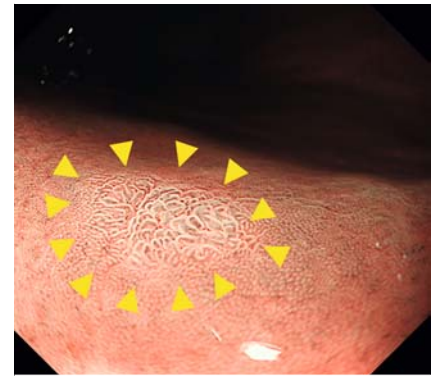


## Endoscopic submucosal dissection for early gastric cancer, using a disposable endoscope

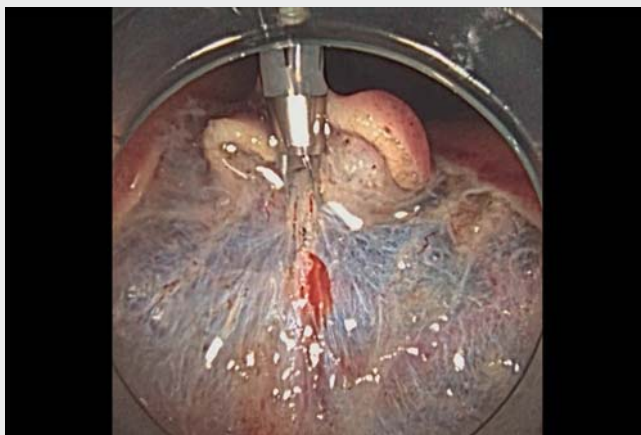
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► **Fig. 1** The Ambu aScope Gastro single-use device: diameter 9.9 mm; working channel 2.8 mm; bending angle, up 210°, down 90°, left 100°, right 100°; and equipped with two light-emitting diodes (LEDs).



► **Fig. 2** Magnified narrow-band imaging (NBI) image of early gastric cancer (yellow arrowheads), using a GIF-XZ1200.



► **Video 1** Endoscopic submucosal dissection (ESD) of an early gastric cancer by means of a single-use disposable endoscope.

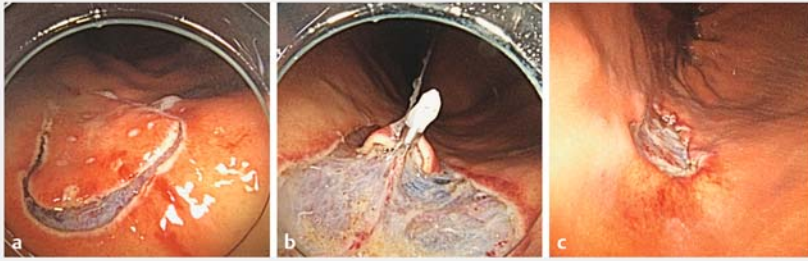
The environment in reusable endoscopes is conducive to bacterial growth [1,2] because of difficult-to-clean areas, deterioration with reprocessing, and surface abrasion. Hence, the risk of cross-infection has been reported [3]. Single-use endoscopes can solve these problems. Diagnostic esophagogastroduodenoscopy using a novel sterile single-use disposable endoscope (Ambu aScope Gastro; Ambu, Ballerup, Denmark) has been reported in recent years (► **Fig. 1**) [4].

Endoscopic submucosal dissection (ESD) is widely performed for early-stage gastric cancer regardless of tumor size, morphology, and location. ESD is minimally invasive and can achieve high en bloc and complete resection rates [5]. Here, we present a case of early gastric cancer resected by means of ESD using the abovementioned single-use disposable endoscope (► **Video 1**).

A 70-year-old woman with early gastric cancer was referred for ESD. The tumor (5 mm, 0-IIc) was located at the anterior

wall of the greater curvature of the middle body. The tumor was well-demarcated by magnified narrow band imaging (NBI) (► **Fig. 2**). A DualKnife J 2.0mm (Olympus Medical Systems, Tokyo, Japan) with magnified NBI via a GIF-XZ1200 (Olympus) was used for marking. The endoscope was changed for the single-use disposable endoscope when marking had been done, and the ESD procedure was performed using the single-use scope. Imaging and maneuverability were adequate for performing mucosal incision and submucosal dissection (► **Fig. 3a**). The clip-and-line traction method was successfully applied by means of the 2.8-mm working channel (► **Fig. 3b**). In addition, the bleeding point could be identified using the water-jet function of the device (► **Video 1**). Hence, the tumor was completely resected (► **Fig. 3c**) without any major complications. The pathological finding was adenocarcinoma of fundic gland type, SM1, Ly0, V0, HM0, and VM0, with curative resection.

Our case demonstrates a successful gastric ESD with a single-use disposable scope. This device could be considered as an alternative to reusable endoscopes if an appropriate case is selected.



► **Fig. 3** After marking had been done, gastric endoscopic submucosal dissection (ESD) was performed employing the single-use gastroscope. **a** Mucosal incision. **b** Clip-and-line traction was successfully applied. **c** The tumor was completely removed.

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## ENDOSCOPY E-VIDEOS

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This section has its own submission website at <https://mc.manuscriptcentral.com/e-videos>

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## Competing interests

Ambu K.K., the manufacturer of Ambu aScope Gastro that was used in this study, provided the product sample at no cost.

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