



# Circumferential Endoscopic Submucosal Dissection of long-segment Barrett's Esophagus with Multifocal High-Grade Dysplasia

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## Abstract

In a case of long-segment Barrett's esophagus with multifocal high-grade dysplasia with multiple comorbidities, circumferential endoscopic submucosal dissection was performed. Following the procedure, the esophageal stricture was also managed.

## Keywords

- ▶ Barrett's esophagus
- ▶ endoscopic submucosal dissection
- ▶ esophageal stricture
- ▶ high-grade dysplasia

## Case Report

A 79-year-old male patient presented with persistent retrosternal burning and high-volume reflux for the last 5 years. His reflux symptoms had become refractory to proton pump inhibitors and prokinetic agents since the past 2 years. He had significant comorbidities as he had panhypopituitarism and a history of stroke with left carotid artery stenosis. He underwent an esophagogastroduodenoscopy (EGD) at our center that revealed a long-segment circumferential Barrett's esophagus with irregular surface and vascular pattern (C8M8, Paris 0-IIb) (▶ **Fig. 1**). Multiple biopsies were taken as per the Seattle protocol that revealed Barrett's esophagus with multifocal high-grade dysplasia.

A multidisciplinary discussion about treatment options was done, and oesophagectomy was considered as high risk because of associated comorbidities. He underwent a CECT chest and abdomen, which revealed no significant mediastinal or abdominal lymphadenopathy. We decided to do a circumferential endoscopic submucosal dissection (ESD) of Barrett's segment in view of multiple comorbidities. The pocket-creation ESD method was employed.<sup>1</sup> We used a hybrid knife, VIO

200D electrogenerator (ERBE) with a forward-viewing endoscope (GIF-HQ190; Olympus, Tokyo, Japan) and a carbon dioxide (CO<sub>2</sub>) insufflator (UCR; Olympus, Tokyo, Japan). We created an anterior and a posterior tunnel by submucosal dissection and these were subsequently joined, hence an en-bloc resection could be achieved. The procedure took 150 minutes to complete, and the 8-centimeter long circumferential specimen was sent for histopathological examination (▶ **Fig. 2-4**, ▶ **Video 1**). Histopathological examination confirmed an R0 resection of a long-segment Barrett's esophagus with multifocal high-grade dysplasia and foci of T1a adenocarcinoma. The patient underwent a gastrografin swallow study on a subsequent day and could be started on a liquid diet on that day.

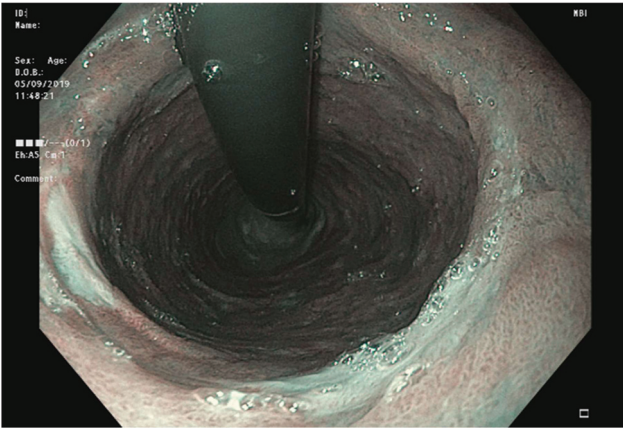
## Video 1

Final esoesd. Online content including video sequences viewable at: <https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0042-1759743>.

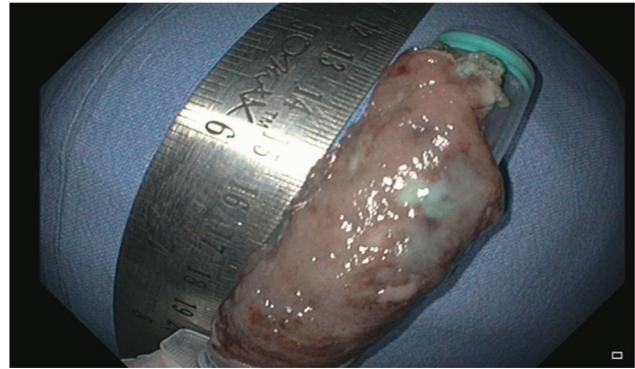
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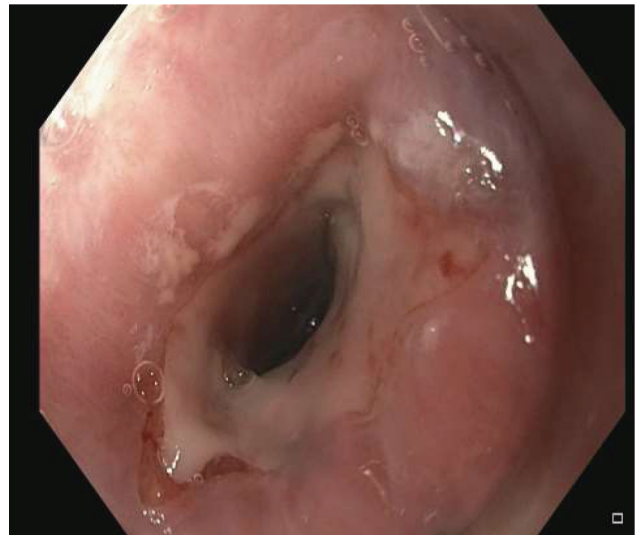
**Fig. 1** Retroflexion view showing long-segment Barrett's esophagus.



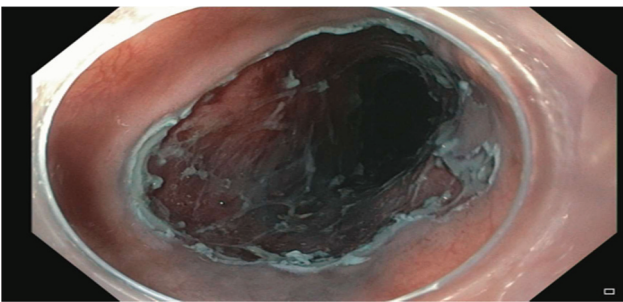
**Fig. 4** Circumferential resected specimen with scale to measure (8 cm).



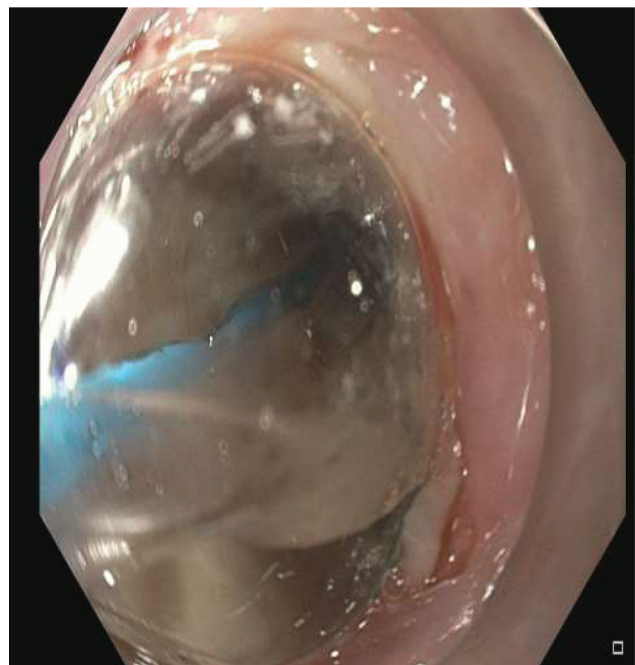
**Fig. 2** Pocket-creation ESD using a hybrid knife.



**Fig. 5** Post ESD esophageal stricture formation at 1 month.

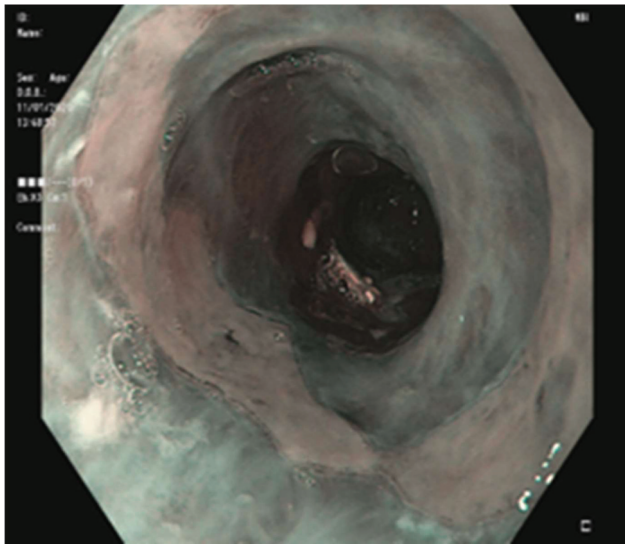


**Fig. 3** Proximal margin of the cut surface.



**Fig. 6** Esophageal stricture CRE dilatation.

The rate of stricture occurrence after near-circumference or whole-circumference ESD has been reported to be between 60 and 100%.<sup>2</sup> The patient underwent an OGD after 1 month that revealed a concentric short-segment stricture along the proximal margin of dissection (► **Fig. 5**). He underwent balloon dilatation of the stricture with an injection of triamcinolone acetonide (40 mg/mL diluted as 1:1 with saline solution) using a 23-gauge, 5-mm long sclerotherapy needle in aliquots of 0.5 mL in each quadrant (► **Fig. 6**).<sup>3</sup> The patient was already on oral corticosteroids for panhypopituitarism, and fortunately



**Fig. 7** Follow-up after 3 months.

did not have a stricture recurrence. He underwent another EGD after 3 months that revealed reappearance of healthy squamous mucosa throughout the resected surface (► **Fig 7**).

**Conflict of Interest**  
None declared.

### References

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