Endoscopic submucosal dissection of an esophageal tumor using a transnasal endoscope without sedation

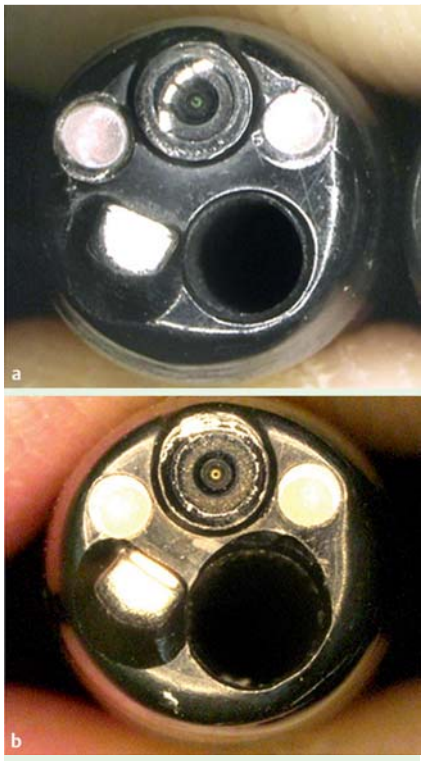

Fig. 1 Comparison of the EG-580NW2 with the EG-580NW transnasal endoscope. **a** EG-580NW has an instrument channel with 2.0 mm inner diameter. **b** EG-580NW2 has an instrument channel with 2.4 mm inner diameter.

Endoscopic submucosal dissection (ESD) within a narrow lumen is considered difficult. When ESD is conducted transorally for an esophageal tumor, the patient must be under sedation. We have already reported ESD using a transnasal endoscope in the pharynx without sedation [1]. Here, we report the first case of transnasal ESD for esophageal cancer without sedation.

The transnasal endoscope we used was the EG-580NW2 (Fujifilm, Tokyo, Japan), newly developed for the treatment of upper gastrointestinal lesions, which has an instrument channel with 2.4 mm inner diameter although its distal end diameter is 5.8 mm (**Fig. 1**). In addition, the EG-580NW2 can be used with a high-frequency electrosurgical system. We performed ESD for esophageal cancer using this endoscope with Nanoshooter, an original attachment hood [1]. The lesion appeared as a brownish area, and irregular vessels were recognized by using the narrow band imaging optical zoom (**Fig. 2**). The endoscope was inserted transnasally without sedation and a 1:1 mixture of glycerol and 0.4% hyaluronic acid [2] was injected into the submucosal layer (**Fig. 3a**). Once the lesion had been lifted, mucosal resection was performed at the oral end of the lesion (**Fig. 3b**). Then, a J-turn was made in the gastric lumen, the scope was pulled up to the esophageal lumen, and the mucosa at the anal end of the lesion was fully resected (**Fig. 3c**). After completely resecting and trimming around the lesion, we used a snare to resect the lesion, to reduce procedure time (**Fig. 4**, **Video 1**). The total time taken was approximately 25 minutes. Our method shortened the time required to perform ESD in the esophagus because the anal end of the lesion was easily and completely resected using a J-turn. Moreover, the procedure was conducted without the risk associated with sedation and with little pain for the patient. The new EG-580NW2 transnasal endoscope is a very useful device for ESD.

Video 1

Procedure for transnasal endoscopic submucosal dissection of esophageal cancer.

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Competing interests: None

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Fig. 2 The cancer in the esophagus. **a** Cancer lesion (encircled). **b** On narrow band imaging (NBI), the lesion appeared as a brownish area. **c** NBI optical zoom showed irregular vessels.

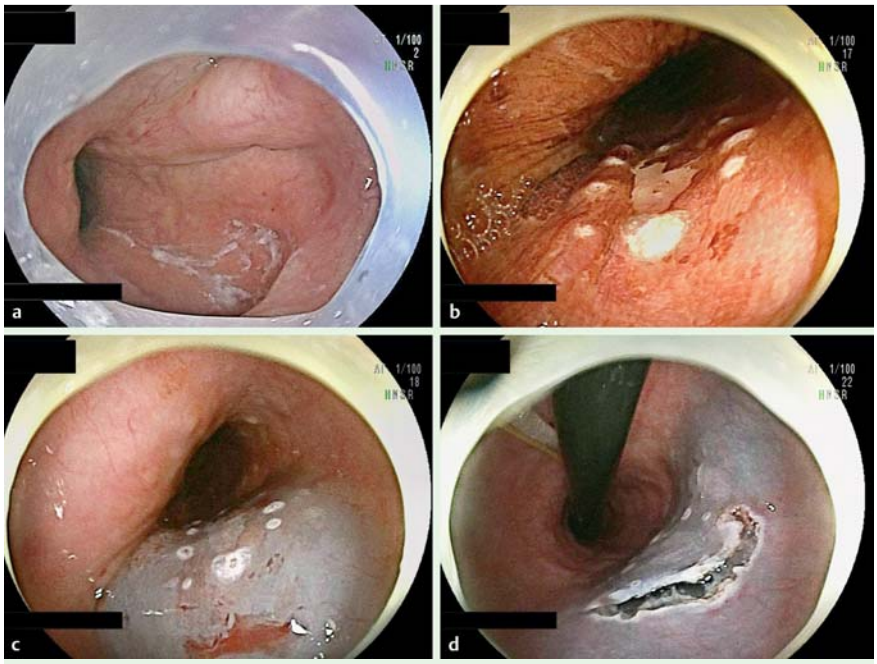

Fig. 3 Procedure for endoscopic submucosal dissection using a transnasal endoscope with Nanoshooter hood. **a** The endoscope with Nanoshooter attached was inserted transnasally. **b** The lesion was not stained with Lugol solution. A mixture of glycerol and hyaluronic acid was injected into submucosal layer, and the mucosal layer at the oral end of the lesion was incised. **c** Next, the mucosal layer at the anal end was incised, using a J-turn.

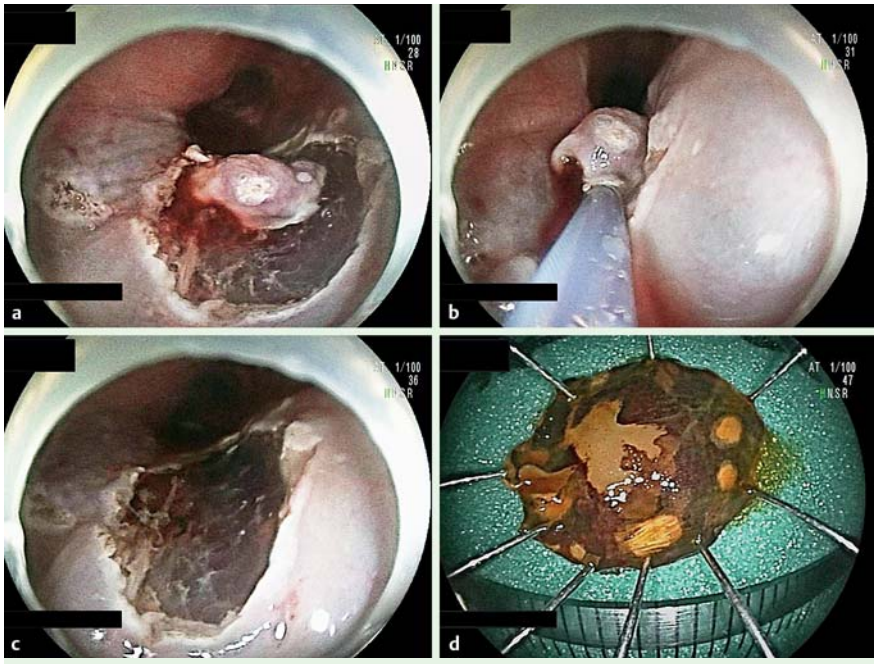

Fig. 4 Completion of endoscopic submucosal dissection using a transnasal endoscope with Nanoshooter hood. **a** The incision around the lesion was completed. **b** A snare was used to resect the lesion. **c** The cancer was completely resected. **d** Resected esophageal cancer.

References

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Bibliography

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