Endoscopic submucosal dissection (ESD) has been established as the general treatment for early GI cancer in Japan; however, ESD is considered a very difficult procedure to perform by those who are inexperienced with endoscopy.1-3 The direction of the accessory channel differs according to the type of upper and lower endoscope used. For ESD that requires an accurate tip for endoscopic manipulation, imaging in the direction in which the attached channel emerges is important. We previously discovered an approach to train individuals in the performance of ESD by attaching a transparent sheet to the endoscope4 and devised an approach for an assistance line to appear on the actual endoscope screen. We named it the “assistance line to visualize endoscopic screen for ESD.”

Video 1 (Video 1, available online at www.VideoGIE.org) shows the approach to prepare the actual assistance line for gastric ESD. The assistance line involves the use of commercially available clear tape and an oil-based pen. Briefly, the device used for ESD is passed through the accessory channel of the endoscope (Fig. 1A and B), and a piece of transparent tape, marked with a dotted line, is pasted on the actual endoscope screen so that it overlaps with the device.

A patient having early gastric cancer with a 20-mm lesion underwent ESD. First, there was no fibrosis; therefore, a mark was made slightly away from the lesion, and the glycerin-fructose solution was locally injected into the submucosa. A circumferential incision was then made around the lesion. A pulley clip with an elastic line method was used on normal mucosa that was slightly distant from the lesion, allowing for a clear visual field.5 With manipulation of the tip of the device according to the assistance line, it was possible to accurately dissect the submucosal layer just above the muscular layer (Figs. 2A and B). Additionally, it was easy to perform precoagulation because the blood vessels penetrated out from the muscular layer (Figs. 2C and D).

When active bleeding occurred, the assistance line was used to accurately align the tip of the device with the bleeding point. If fibrosis is severe and visualizing the proper muscle layer is difficult, the assistance line can be used by the experienced endoscopist to guide the trainee, and this can make the procedure easier for the trainee. Lesions can then be removed at once with no adverse events. Our patient was discharged without any postoperative adverse events. Because the tape used for the assistance line is only stuck on the endoscope screen, it can be peeled off after ESD, and the screen can be wiped with a wet cloth or other such material. There is no trace of the tape after the procedure.

For an inexperienced endoscopist, the direction of the attached channel differs depending on the type of upper

Figure 1. A, Actual endoscope screen after insertion of the device. B, Actual endoscope screen with writing on transparent tape positioned on the device.
and lower endoscope, which makes ESD of the intestinal canal more difficult. Slow and precise endoscopic movements are required for ESD to align the positions of the tips of a few devices very carefully at the dissection site. Because ESD requires exact tip placement for endoscopic manipulation, imaging in the direction of the channel is important. Overall, the assistance line is a dotted line drawn on the endoscope screen and contributes to improving the performance of inexperienced endoscopists who are required to carry out ESD.

DISCLOSURE

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